SOUTHERN EXPOSURE
Balmy weather and affordable housing help South Central Best Places to Work lure IT talent. **PAGE 36**

HUNTING FOR SAFETY
FoxPro users lobby Microsoft to take the 23-year-old software off its endangered species list. **PAGE 6**

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Would You Like **Wi-Fi** With That?

Fast food has been called the industry that technology forgot. But **IT innovations** may soon leave laggards with bacon, egg and cheese on their faces. **Robert L. Mitchell** explores happier meals to come. **Page 25**

Domain Name System Shows Signs of Stress

Cybersquatting, speculation sow confusion online

BY PATRICK THIBODEAU

Cybersquatting — the practice of registering Internet domain names that poach well-known trademarks — is profitable for just about everybody involved. Money is made off of registration fees and advertising, and even the regulator of the Domain Name System gets a piece of the action.

But it's not so lucrative for corporate officials like Lynn Goodendorf, who heads global privacy at InterContinental Hotels Group PLC.

The Windsor, England-based company owns seven hotel chains, including Holiday Inn and Crowne Plaza, with more than 3,700 properties worldwide. Each day, Goodendorf gets about 100 e-mail alerts concerning potential trademark infringe-

Domains, page 16

Feds See Slight Gain On Security Marks

Overall grade up to C-, but eight agencies still flunk FISMA test

BY JAIKUMAR VIJAYAN

The federal government last week received an overall grade of C- on an annual IT security report card issued by Rep. Tom Davis (R-Va.). That was a slight improvement from the D+ grades handed out for the two previous years, but eight agencies got failing marks — the same number as last year.

The agencies at the bottom of the report card included the departments of Defense, State, the Interior and the Treasury, as well as the Nuclear Regulatory Commission. It was the second straight F grade for the Defense, State and Interior departments. Meanwhile, the Department of Homeland Security received a D, up one grade from an F a year ago.

> I would not accept a C- on my kids' report cards.

Karen Evans, administrator of e-government and IT at the White House Office of Management and Budget, said at a press conference in Herndon, Va., that she was encouraged by the improvement in the overall security grade but not satisfied with the results. "I would not accept a C- on my kids' report cards," Evans said. "Average is not good enough."

The grades are based on reports compiled annually by the agencies' inspectors general to comply with the requirements of the Federal Information Security Management Act, which Davis authored. The FISMA reports submitted for 2006 show that more agencies are testing their security controls and contingency plans and that the reporting of security breaches has "increased dramatically," said Davis, who is the ranking minority member on the House Committee on Oversight and Government Reform.

However, Davis said more improvements need to be made in areas such as secure

Fed Grades, page 14

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– Matthew Eastwood
Program Vice President
Enterprise Platforms Group
International Data Corporation

There's a major transition under way in the IT industry that directly addresses these challenges. Standards-based server solutions can now handle the most demanding enterprise applications and workloads, at lower cost and with greater flexibility than proprietary RISC and mainframe systems. This fundamental shift in computing capability is helping many of the world's largest companies substantially reduce IT costs and future-proof their data centers by establishing a more flexible, standards-based infrastructure that can be scaled up or down easily in response to business needs and market dynamics.

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Image courtesy of Sydney Opera House

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Managing Relationship Managers

These folks are supposed to change the perception of IT from a passive request-filler to an innovative provider of business value. But the CIOs who employ them — like Ralph Szygenda of General Motors — shape the way their roles play out. **Page 29**

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Where Were You in 1967?

COMPUTERWORLD IS CELEBRATING ITS 40TH ANNIVERSARY THIS YEAR, and we'd like to talk with our original readers. Have you been subscribing to *Computerworld* since the very beginning, back in 1967? If so, please contact Special Reports Editor Ellen Fanning at ellen_fanning@computerworld.com. We may feature you in a story in our July 9 issue.

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10 Firefox Extensions to Avoid

NETWORKING: Just because an extension is popular doesn't mean it belongs in your Web browser.
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Adding Server Capacity As Your Business Grows

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www.computerworld.com/servers

The LaCie d2 Quadra

Review: The Top Four External Hard Drives

STORAGE: We put four of the leading external hard drives to the test and found remarkable differences among them.
www.computerworld.com/storage

Travel Back in Time With GPLv3

MANAGEMENT: Jonathan Zuck sees the newest version of the General Public License as a move back to non-interoperable technology silos.
www.computerworld.com/management

Liquid Cooling Returns To the Data Center

SERVERS: Some customers are trying to stave off the trend, but experts say the shift is inevitable.
www.computerworld.com/servers

Feeding the Game

SECURITY: The money used in online games may be virtual, but real criminals still want to get their hands on it. Deb Radcliff explains why cybercrime targeting World of Warcraft is a problem for corporate IT.
www.computerworld.com/security

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AT DEADLINE

Ex-CA CEO Ordered To Pay $800M

Former CA Inc. CEO Sanjay Kumar has been ordered by a federal judge to pay about $800 million in restitution to victims of the fraud he committed while at the company. Kumar must pay $52 million of that over the next 18 months, Judge Leo Glasser ordered. Kumar late last year was sentenced to 12 years in prison for obstruction of justice and securities fraud. Once out of jail, he must give 20% of his annual income to the restitution fund.

Microsoft Warns Of Server Flaws

Microsoft Corp. has issued a warning about vulnerabilities in several of its server products that could allow hackers to run unauthorized code on affected computers. The company is working on a patch, but its release date has yet to be scheduled. Copenhagen-based security vendor Secunia APS rated the problem as "highly critical."

Citigroup to Lay Off 17,000, Overhaul IT

Citigroup Inc. has announced plans to lay off 17,000 workers as part of a massive restructuring that includes an overhaul of its IT operations. The IT plan includes a consolidation of data centers, better use of existing technologies, optimization of global voice and data networks, standardization of application development processes and vendor consolidation. The company projects that the restructuring will save it more than $10 billion over three years.

Microsoft Delays Virtualization Beta

Microsoft has delayed delivery of the first public beta of its Windows Server virtualization software, code-named Viridian, to the second half of this year. The beta version was previously slated for release during the first half of the year. Microsoft officials attributed the delay to continued work on the tool's performance and scalability.

FoxPro Supporters Lobby To Keep DB Tool Alive

Users petition Microsoft to continue development, but vendor is unmoved

BY ERIC LAI

MICROSOFT CORP. announced last month that it would stop developing its Visual FoxPro database and development tool after releasing one last service pack update. But some FoxPro supporters are waging an online campaign — thus far unsuccessfully — to save the 23-year-old technology.

Two Spanish developers have set up a wiki-based Web site called *MasFoxPro* (More FoxPro) that asks visitors to sign a petition calling on Microsoft to continue developing the software beyond this summer's scheduled release of Service Pack 2 for Visual FoxPro 9.0. As of Friday, the site listed about 2,950 signatures for the online petition.

But Microsoft remains unmoved. In a statement sent to *Computerworld* via e-mail, Jay Roxe, group product manager for Visual Studio, said the decision to halt FoxPro development was considered "very carefully" and remains the only realistic option. "For Microsoft to continue to evolve the FoxPro [code] base, we would need to look at creating a 64-bit development environment, and that would involve an almost complete rewrite of the core product," Roxe wrote.

Possible Alternatives

Another possible option is striking a deal with a third-party vendor to take over FoxPro's development. But Roxe wrote that Microsoft has "heard from a number of large FoxPro customers that this would make it impossible for them to continue to use FoxPro, since it would no longer be from an approved vendor."

As a result, he added, the company decided that making the FoxPro code available on CodePlex, its Web site for hosting open-source projects, "was the best path forward."

FoxPro supporters take the opposite view. Even if Microsoft keeps its promise to support users until 2015, halting development will make it impossible for FoxPro developers to hawk their wares, they say. And, they wonder, why give up on a tool that, despite its age, remains more powerful and easier to use in many respects than .Net, Microsoft's favored development platform.

"There is still a lot of life left in FoxPro," said Colin Keeler, director of financial systems for South Dakota's state government and Web manager for the Virtual FoxPro User Group.

South Dakota has used Visual FoxPro since the early 1990s to create its annual state budget. Keeler said that although the budget information is now stored in Microsoft's SQL Server database, FoxPro is still the state's primary front-end development technology. "We use SQL Server for the heavy lifting but prefer FoxPro for the fine-tuning," he said.

> **FoxPro has always been able to evolve. So this is not a death announcement by any stretch.**
>
> ANDREW MacNEILL, INDEPENDENT FOXPRO DEVELOPER

FoxPro remains "a kick-ass product," said Alec Gagne, president of CrimeStar Corp., a San Jose-based vendor of software for managing police departments. "A lot of things that are now finding their way into .Net for handling data, frankly, I saw a long time ago in FoxPro," Gagne said.

Others were more sanguine about Microsoft's decision. They said that open-sourcing FoxPro could provide the best chance for long-term survival of the resilient technology, which Microsoft acquired in 1992 when it was still called FoxBase, its original name.

"They said PowerBuilder was going to kill FoxBase back in 1994. Nobody uses PowerBuilder anymore," said Andrew MacNeill, an independent FoxPro developer in Kanata, Ontario. "Then they said Paradox was going to be the next big thing. But FoxPro has always been able to evolve. So this is not a death announcement by any stretch."

Interest in FoxPro may not be as low in the U.S. as trade-show attendance figures indicate (see story below). The Virtual FoxPro User Group has 14,000 active members, according to Keeler. And the software isn't saddled with an aging user base: Most of the user group's U.S. members "are in their late 30s or early 40s," he said.

Keeler added that because of Microsoft's long neglect of FoxPro, the software's users are "very self-sufficient." That, he said, should help ease the transition of the technology to the open-source world. ▸

FoxPro's Demise a Long Time Coming, Some Users Say

FOXPRO BEGAN as a clone of dBase II, which was once the dominant desktop database. But over the past 23 years, it has turned out to be much more than a mere clone.

Microsoft bought FoxPro when the technology was eight years old, hoping to gain an immediate foothold in the still-burgeoning dBase market. In 1995, it released FoxPro 3.0, the first "Visual" version, with an object-oriented programming environment. That helped draw about 3,000 attendees to that year's FoxPro-centric DevCon trade show.

Visual FoxPro can run as fast as in-memory databases for certain applications, said developer Andrew MacNeill. And its chameleonlike ability to serve as both a data store and a data-minded development environment has helped the software evolve to support today's Web environments. "Now it's a great middleware piece that you can team with SQL Server in a multitier architecture," MacNeill said.

The price is right for many users, thanks to FoxPro's use of the open DBF file format. Even today, Visual FoxPro 9.0 lists for just $649.

But Microsoft's announcement that it will stop developing FoxPro was no surprise to many users, who said the technology has been under the ax almost from the day it was acquired by the software vendor.

"Every time Microsoft sold a copy of FoxPro, I think Bill Gates thought about all the money they were losing from not being able to sell a copy of SQL Server," said Kevin Cully, an Atlanta-based developer who has used FoxPro since the early 1990s.

Microsoft began plundering FoxPro of both its technology and its developers, incorporating the former into more favored products such as SQL Server, Access, Visual Basic and .Net. Calvin Hsia, lead developer for Visual FoxPro, confirmed last month that "a lot of what's in SQL Server came from FoxPro technology."

FoxPro does have some technical shortcomings. Because it uses the DBF format, it's more vulnerable to data corruption than true relational databases are. Also, "from a development perspective, FoxPro-created apps don't look as up to date" as others do, MacNeill said.

Interest in FoxPro has waned, especially in the U.S. DevCon last attracted more than 1,000 attendees in 2000. The conference now involves other technologies as well, and only about 100 people attended the FoxPro segment last year. But demand for the product remains high in Latin America, where there are more than 50,000 active FoxPro users, according to the *MasFoxPro* developers.

— ERIC LAI

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Storage Vendors Target Smaller Companies

Need for complex storage systems growing quickly among such firms

BY BRIAN FONSECA

SEVERAL PRODUCTS tailored to meet the oft-forgotten needs of small and midsize companies will be unveiled at *Computerworld*'s Storage Networking World conference this week.

Officials at such firms say their storage systems are now as complex as those of larger companies, thanks to storage management, newly virtualized environments and concerns about data sensitivity.

Kevin Halladay, IT manager at the Sundance ski resort in Utah, said that vendors have long ignored the needs of smaller companies like his.

"As a small ski resort and a small IT shop, we have all the same needs [on a smaller scale] as Killington, Aspen and all the larger resorts out there," he said. "And yet we have to buy all the same software and all the same hardware, all the same everything that the big resorts have to buy."

Halladay said he has long hoped that vendors would bring out lower-cost, scaled-down products for smaller companies.

At this week's Storage Networking World conference in San Diego, EMC Corp., IBM, Hewlett-Packard Co. and Symantec Corp. each plan to roll out storage products aimed at a growing number of increasingly frustrated small and midtier users with limited budgets and personnel shortages.

HP will introduce Storage Essentials Standard Edition, a storage resource management product designed for businesses with fewer than 1,000 employees. The new software can simplify, control and automate storage-area network deployments, HP said.

The standard edition is priced from $37,000, while the enterprise edition for large companies has a base price of $50,000. The product is slated to ship in June.

E-mail Governance

Hopkinton, Mass.-based EMC plans to roll out EmailXtender 4.8 and DiskXtender 6.2, products that it said can provide midsize businesses with improved e-mail governance and file system administration.

DiskXtender, which is currently priced from $36 to $45 per mailbox, includes a new search module to augment policy-based file system archiving. It also adds support for Exchange Server 2007 and Outlook 2007, EMC said.

Sheffield, England-based Barlow Group Ltd., a commercial interior renovation firm, is running EmailXtender 4.7. Group IT manager Wessam Baroudi said the tool has addressed many of the company's e-mail headaches.

has hopes for EmailXtender

He noted that he hopes that the new version includes a caching capability that will allow e-mails to be copied and retrieved on a local hard drive after synchronization. He also said he hopes that the updated offering lets users search e-mails or files by domain name and allows IT staffers to easily make adjustments when an employee leaves a company.

Also, "if the mailbox has been deleted, you can't find a global address list [now]," said Baroudi. "It makes it more difficult to search. If you have 1.2 million e-mails, you want the information very, very quickly."

Symantec this week will introduce Symantec Backup Exec System Recovery 7.0, which will provide backup and data-protection capabilities to virtualized environments in small and midsize firms.

The disk-based offering now supports Microsoft Vista, x64-bit platforms, the VMware ESX Server and Microsoft Virtual Server, said Cupertino, Calif.-based Symantec.

The updated version, priced at $1,095 per server, also includes new centralized management capabilities, a granular Microsoft Exchange Retrieve Option add-on and versioning support.

IBM plans to introduce the System Storage DS3200 and DS3400 Express disk arrays. The entry-level boxes are intended for small and midsize businesses, with features designed to ease installation and storage management through an object-oriented approach, the company said.

The DS3200 and DS3400 arrays are priced from $4,200 to $6,250 and $5,900 to $8,750, respectively.

Oracle Set to Ship Updated World ERP Software

BY MARC L. SONGINI

Oracle Corp. this week plans to unveil an extensive upgrade of the once-moribund World ERP suite, fulfilling promises made to users after its acquisition of PeopleSoft Inc.

The World software had been slotted for obsolescence by its original owner, J.D. Edwards & Co., but Oracle changed that plan after gaining ownership with its 2005 purchase of PeopleSoft. Oracle at the time promised World users that it would make a significant commitment to the application line.

The new World A9.1 software, expected to be announced during Oracle's Collaborate 2007 user conference in Las Vegas this week, will feature some 1,250 enhancements, including a new interface and service-oriented architecture (SOA) capabilities.

LaSalle Bristol Corp. has been testing the A9.1 suite since January, and its IT staffers have been impressed by the test upgrade's ease of use, said Michael Caldwell, vice president of information systems. The Elkhart, Ind.-based maker of home furnishing products currently runs World 7.3 to support its accounting and manufacturing processes. File conversion to A9.1 was simple, Caldwell said.

The company hopes to start work on the full implementation of the new version later this month, he added.

LaSalle is particularly interested in the release's new warranty functions, which promise to help companies fulfill service and support commitments after products are sold, Caldwell said.

Some IT staffers at Matanuska Telephone Association Inc. in Palmer, Alaska, plan to attend Collaborate to discuss the capabilities of the new software with early adopters, said Gary Riley, a business systems analyst at the telephone service provider.

Although interested in an upgrade, Matanuska doesn't want to lose the "rock solid" capabilities of the World A7.3 suite it currently runs, said Riley. "We hope to enhance its abilities without losing its best attributes," he said.

John Schiff, vice president and general manager of J.D. Edwards World at Oracle, called the new version "probably the most significant release of World in 10 years."

The A9.1 suite will run on IBM iSeries hardware, formerly known as the AS/400, and the DB2 database, the same as all previous versions of World, he said.

The new version includes a Java-based interface that can be integrated with desktop tools such as Microsoft Excel, making them more productive, said Schiff. Oracle will offer users either the product's traditional green-screen interface or a new Web-based point-and-click one that is customizable, he added.

The SOA technology will allow the application to be easily linked to non-World applications to facilitate interactions with customers and partners, Schiff said. A9.1 also has tools to ease the process of migrating from older World systems to the new version, he said.

Predrag Jakovljevic, an analyst at Technology Evaluation Centers Inc., a consulting firm in Montreal, said the World upgrade indicates that Oracle is doing a better-than-expected job of enhancing applications it has acquired.

- SOA technology to support integration with other applications
- A Java-based user interface that eases navigation
- Support for lean manufacturing processes
- A service and warranty management module

However, Jakovljevic said he hopes that Oracle will better explain how the World applications fit into the plan for the company's next-generation Fusion application suite.

World A9.1 is shipping now. A spokesman said pricing won't be disclosed.

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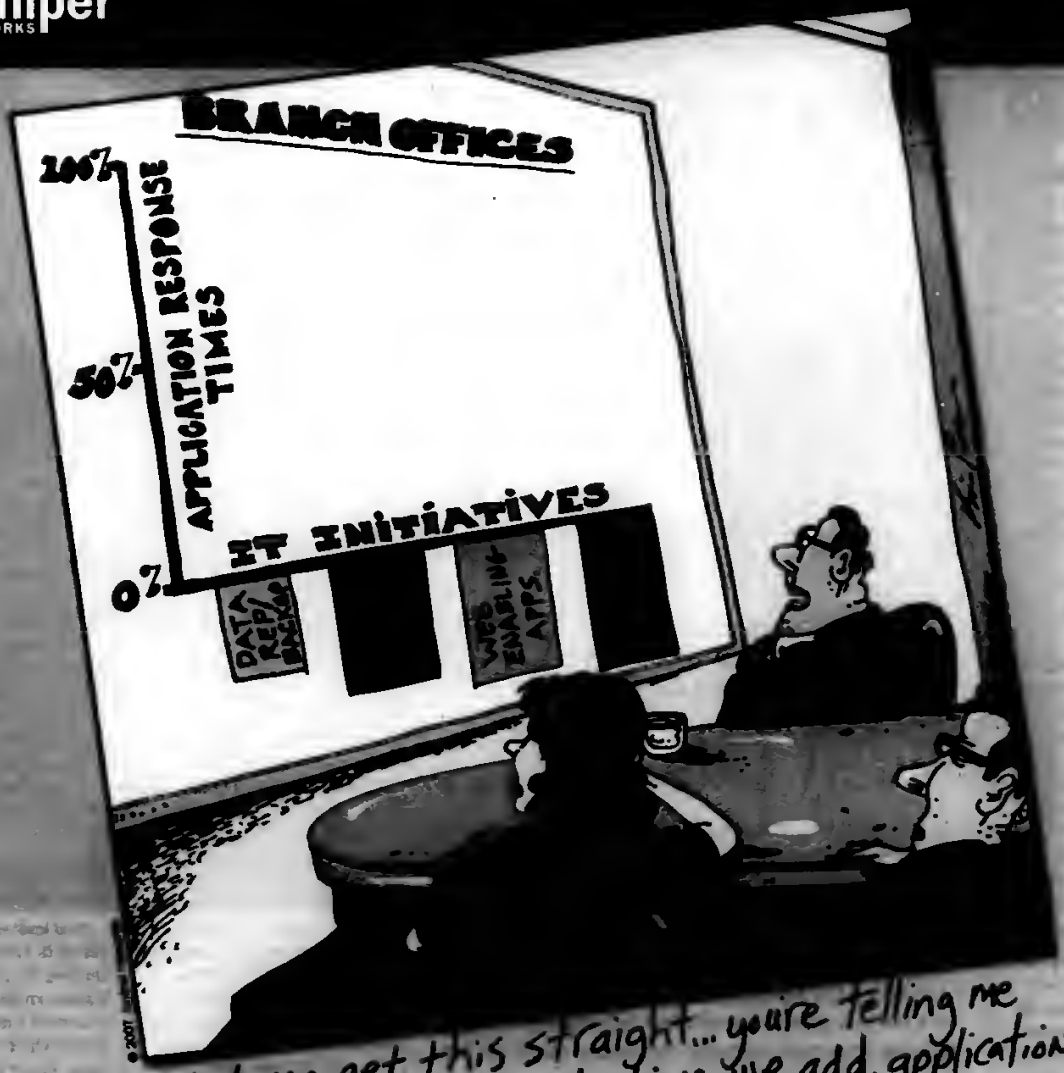

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BRIEFS

AMD Projects Steep Drop in Revenue

Advanced Micro Devices Inc. has warned investors that it plans to drastically cut costs because of a projected steep drop in revenue for the quarter that ended March 31. The company said that it now expects revenue of $1.23 billion for the quarter, down from its previous forecast of $1.6 billion to $1.7 billion. In response to the shortfall, AMD said it plans to cut 2007 capital expenditures by $500 million and limit corporate hiring to only critical positions.

Microsoft Issues Seven Patches

Microsoft Corp. has released its April security updates, which fix seven critical vulnerabilities in Windows and the Microsoft Content Management Server. The patches are said to fix flaws in the Windows Client/Server Runtime Subsystem, Microsoft Agent, and Plug and Play services.

Dell Halts Sales of Axim Laptop Line

Dell Inc. has stopped selling the Axim handheld computer line it unveiled in 2002. Dell pulled the Axim X51 handheld products off its Web site and stopped selling them on April 5. Analysts expect the company to unveil a new handheld later this year, and some say it may acquire Palm Inc. to do it. Dell declined comment on the possibility of a Palm acquisition, which was suggested by Jack Gold, an analyst at J. Gold Associates LLC.

Foundation Updates Server Standard

The Linux Foundation has updated its Linux Standard Base server specification, adding new automated testing tool kits to make it easier to develop applications for different distributions of the open-source operating system. The move is part of the nonprofit industry consortium's effort to make Linux an attractive alternative to Microsoft's Windows software.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

A Little DAB Will Do Ya . . .

. . . for application consolidation. That's right, *application*, not server, consolidation. FastScale Technology Inc. in Sunnyvale, Calif., this week will release clever software that automatically creates dynamic application bundles, or DABs, which combine an application with only those parts of an operating system it needs to run. According to CEO Lynn LeBlanc, DABs are 1% the size of a normal app/OS combo. She says the fear of destabilizing important software has caused many CIOs to assign one app and its operating system per server, leading to pricey server proliferation and attendant data center power and cooling problems. LeBlanc says FastScale tackles the root cause of the issue by eliminating "bloated software, especially operating systems." Slimmed-down DABs are so small that they can wait on a FastScale server until an end user requests one. Then they can be dynamically provisioned in seconds onto an available x86 machine and begin operation. LeBlanc says a typical Apache Web server and operating system are a chubby 3GB, but an Apache DAB is a mere 20MB and can be stored entirely in RAM. You don't even need a disk drive on the server. Besides needing fewer, and less expensive (disk-free), computers in your data center, an added benefit LeBlanc touts is security: With far fewer operating system components exposed in your production environment, malware will have a much smaller target to hit. FastScale's first release works with Linux-based apps. The company plans support for Solaris and Windows later this year. Pricing starts at $30,000.

5%-10%
Gartner's estimate of the average app's server utilization.

Evict cybersquatters . . .

. . . who damage your brand and cost you money. One underreported cybercrime is cybersquatting — the ruse by which outlaws get domain names that are a mere typo away from your Web site (e.g., *www.microsift.com*). Last year, *The Washington Post* reported that 15% of all Web traffic originates as typed-in URLs, and VeriSign Inc. estimates that millions of URL typos occur daily, regularly taking unsuspecting visitors to a cybersquatter's virtual digs. Ari Master, chief operating officer at CitizenHawk Inc. in Aliso Viejo, Calif., says these illegal sites often divert traffic to your competitors or launder the URL through a series of other sites that will bring users back to your site through advertising programs such as Google's AdSense. That means you pay the cybersquatter for an end user's typo. CitizenHawk claims that for the top 50 online retailers, there are 10,000 cybersquatter sites. You might not be surprised to learn, then, that CitizenHawk is launching a service this week called TypoSquasher. Starting at $1,000 per month, the service continuously cruises the Internet in search of your cybersquatter enemies and helps you shut them down.

60%
How often users visit a Web site for the first time by typing in a URL, according to VeriSign.

Tune thin clients . . .

. . . to your favorite IP service. Stephen Yeo likens thin-client terminals to television sets. But the worldwide strategic marketing director at IGEL Technology GmbH in Bremen, Germany, says ton many IT executives think of thio clients as TVs that get just one channel: access to a single business application via Citrix or Microsoft Terminal Services. In fact, he says, IP-based thin clients can get any IP "channel," or service, on your network, including voice over IP, and they can do it more securely. Yeo says VoIP is popular io call centers, but its security problems (see the Jan. 15 On the Mark, "VoIP Soon to Be a Target for . . .") make it problematic to run on PCs. By hooking a Bluetooth headset to a thin client and running your VoIP app in the data center, you can get the same service at less risk.

Thin clients offer many "channels" of IP services.

One other heoefit: less energy usage. The Fraunhofer Institute, a research company also based in Bremen, released a study last December showing that over their life spans, thin clients consume 51% less CO_2 than PCs.

Get control of the Internet . . .

. . . or at least your employees' access to it. Zihtec LLP in Palm Harbor, Fla., this week is releasing an application called Internet Control for Business (ICB), which lets you determine where and when your workers cao get online. The $39.95 program comes with predefined blacklisted URLs, such as porn sites, and scans unlisted sites for content before permitting end users to access them. Zihtec President Gabriel Luu says you can also set up policies that restrict instant messaging usage — allowing it only during certain times of day, for example, or only with key customers. Although the agent code resides on PCs, the LAN-based ICB application handles policy enforcement, scanning and other services. It also lets you establish two-way encrypted IM sessions between ICB sites no matter which IM client you use. Luu expects to have a version of ICB for mobile devices later this year. ▸

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Sun, Fujitsu Finally Ready to Roll Out Sparc-based Servers

Joint systems give Sun users new path for upgrades

BY PATRICK THIBODEAU

IT HAS been more than two years coming. But Sun Microsystems Inc. and Fujitsu Ltd. this week are expected to unwrap a line of jointly developed Sparc-based servers that are the future path for users of Sun's Unix systems — at least until its Rock multicore processor makes an appearance within the next year or two.

Sun officials said the new Sparc Enterprise systems can support up to 128 processor cores. The midrange and high-end models are based on Fujitsu's Sparc64 VI dual-core processor, while the entry-level systems use Sun's own UltraSparc T1 chip.

Sun wouldn't disclose performance benchmarks for the new servers last week. But Bob McGaughey, senior director of the company's Sparc Enterprise group, said that tests have shown a 50% performance increase over Sun's existing servers. He added that the gain is being driven by several factors, including processor improvements and enhancements to the subsystems that handle memory, interconnects and I/O.

The high-end M8000 server uses Fujitsu's Sparc64 VI chip.

The Sun-Fujitsu systems, previously referred to as the Advanced Product Line, were detailed in 2004 and had been expected to ship last year.

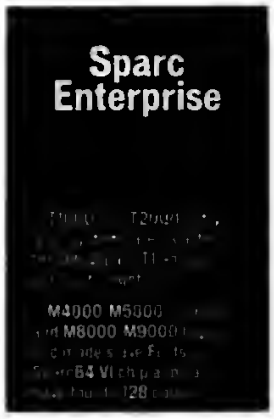
"This is a serious engineering project for both companies, and we wanted to get it right," said Richard McCormack, senior vice president of marketing at Fujitsu Computer Systems Corp. in Sunnyvale, Calif.

What isn't clear is how the Sparc Enterprise line fits in with systems that will be based on Rock, which will support up to 16 processor cores. Last week, Sun President and CEO Jonathan Schwartz posted pictures on his blog of what he called the "first silicon" of the Rock device. "You have no idea how cool it is to have this arrive on my desk in a plastic sandwich bag," he wrote.

Nearly all of the comments that were posted in response to Schwartz's blog entry praised that step in the chip's development. But a couple of people did ask questions about the relationship between future Rock-based hardware and the Sparc Enterprise servers. It's a question that Sun still isn't ready to answer.

In an interview last week, Sun officials declined to discuss the company's server road map and said they wanted to focus on the products that are available now. Regarding existing UltraSparc processors, McGaughey said he doesn't expect any additional speed bumps for the UltraSparc IV+ chip at this point.

But Sun does expect many users to continue to run the systems they already have. "We don't want to force any kind of migration," said McGaughey. The new servers only support the Solaris 10 operating system, and many Sun users are still running Solaris 8 or 9, according to McGaughey.



Gordon Haff, an analyst at Illuminata Inc. in Nashua, N.H., said the new servers will bridge the gap until Rock arrives, "if Rock is the next big thing that Sun says it is going to be." Sparc Enterprise should be of interest to users who can't wait a couple of years for Rock-based systems, Haff said, adding that the new machines "look to be a pretty good interim product line."

Sun Donates Storage Code to OpenSolaris.org

BY BRIAN FONSECA

Sun Microsystems Inc. last week announced plans to donate pieces of its storage software and hardware technology to the OpenSolaris open-source developer community.

The company said that it will provide storage offerings to OpenSolaris.org, a Sun-sponsored site, incrementally over the next few months.

The first wave of code from Sun storage technology — including the Solaris Zettabyte File System, the 128-bit file system in Solaris 10, Network File System Version 4.1 (also called parallel NFS) and YANFS (formerly called WebNFS) — appeared on the Web site last week.

Sun's donation of its storage source code is a case of too little too late for some users, including Jeff Bast, lead Unix system administrator at Green Bay, Wis.-based Schneider National Inc.

Bast said that Sun's inability to provide native backup support of Linux forced him to buy a third-party alternative from Storix Inc. in San Diego.

"Sun, they're a little late in the game here," said Bast. "If they were a little quicker to market to open-source and support backup of Linux on their hardware, it probably would have worked [out]."

However, Schneider National had to turn to Storix to solve its bare-metal backup and rapid recovery needs, he said.

Bast added that smaller vendors such as Storix have an advantage over Sun by supporting multiple open-source platforms, including IBM's Unix-based AIX operating system and Linux.

He said that if Sun was serious about supporting the open-source movement, its storage offerings would support all mainstream flavors of Linux and virtual environments such as EMC Corp.'s VMware.

Lower Costs Eyed

David Young, CEO of Joyent Inc. and a member of the OpenSolaris.org community, said the donated source code and technology can help developers of storage products enhance their own code and perform more "automation" with fewer resources.

San Anselmo, Calif.-based Joyent provides on-demand software and storage systems for Ruby on Rails, an open-source Web framework.

"We don't think [our needs] are much different than most users of storage solutions," Young said, explaining that he wants a lower price per gigabyte and the ability to manage storage devices from different vendors using a single software tool. "These things remove management costs," he added.

Sun said that it plans to donate code from its StorageTek QFS shared file system, StorageTek Storage Archive Manager, StorageTek 5800 client interfaces and simulator/server, and other storage components over the rest of this year.

> **Sun, they're a little late in the game here. If they were a little quicker to market to open-source and support backup of Linux on their hardware, it probably would have worked [out].**
>
> JEFF BAST, LEAD UNIX SYSTEMS ADMINISTRATOR, SCHNEIDER NATIONAL INC.

Sun partner QLogic Corp. has also announced that it will donate code from its HBA Fibre Channel storage products to OpenSolaris.org.

IDC analyst Vernon Turner said Sun's plan to open-source its storage technology could help it offer a unified storage package to users of systems from multiple vendors.

"That's a very important differentiation point from Sun over its main competitors," he said, citing IBM and Hewlett-Packard Co. "If the OS between systems and storage is optimized, it makes life a lot easier for developers to take advantage of both platforms."

Turner added that Sun's open-source storage donation is a part of its long-term strategy to put Solaris on as many commoditized x86 servers and storage devices as possible.

Innovations by InterSystems

IBM Hopes Coalition of Energy Companies Can Advance Grid

Will use Web 2.0 tools to discuss utility management, automation options

BY HEATHER HAVENSTEIN

IBM and CenterPoint Energy Houston Electric LLC last week unveiled plans to create a coalition of energy companies that will use Web 2.0 tools to share information about major projects.

IBM said that it hopes the Intelligent Utility Network Coalition will also help boost the adoption of its grid computing systems to improve automation in the energy industry. An intelligent utility network (IUN) is an information architecture that supports automated tracking of customer usage and real-time monitoring of assets like meters and power lines to improve service and reliability.

Brad Gammons, vice president of IBM's global energy and utilities industry business, said the company plans to provide coalition members with access to its portal and other collaboration tools, such as wikis and blogs, so their managers and developers can discuss their experiences in building IUNs.

"Think of social networking at a solution development level," he said. "What is different here is allowing a group of utilities to collaborate in really making real things that have been tested."

IBM said it expects to add one or two more members to the coalition in the next three months and to have seven onboard by the end of the year.

The coalition was announced about a year after IBM and CenterPoint began a $750 million, five-year project to automate the Houston-based electricity supplier's entire operation. The effort includes construction of a grid-based IUN that will compile data, information and analytics to help improve operations and specifically enable workers to detect outages sooner and restore service more quickly, CenterPoint officials said.

Among the products used to create the CenterPoint grid are IBM's integration middleware, information management software and enterprise portal.

Delivery Still Analog

"The products that consume electricity today are increasingly digital, but the delivery system for electricity is still mostly analog," said Georgianna Nichols, group president of CenterPoint Energy Houston Electric operations. "We're deploying an intelligent grid infrastructure to digitize the electric grid."

For example, she said, the project with IBM includes the implementation of a so-called advanced meter infrastructure that will support automated meter reading and allow CenterPoint to connect and disconnect customers' electricity service remotely.

"A year ago, we were very optimistic about automated meter reading," Nichols said. "Within 12 months, this has grown so much bigger that it is a discussion around almost revolutionizing the whole electric utility industry. We were dreaming about it a year ago. Today it is a reality, and we are testing equipment."

Zarko Sumic, an energy and utilities analyst at Gartner Inc., said that about two dozen similar coalitions are looking to help modernize the energy sector's distribution infrastructure. "What is unique about this one is that we have a single vendor playing a significant role and willing to invest in this," he said. "IBM really needs reference sites. They need a critical mass of companies that will subscribe to the [IUN] idea."

In addition, because IBM wants to recover some of its investment, Sumic said he expects to see this coalition deliver tangible results faster than some of the other coalitions, many of which are run by government regulators.

However, Sumic said a coalition led by a single vendor will likely be steered to that vendor's technologies. Moreover, IBM and CenterPoint have to work out the thorny issue of what payback participants can expect from joining the coalition, he added. ▸

Continued from page 1

Fed Grades

systems configuration and the development of effective security plans, as well as establishing milestones for measuring the progress of the plans.

Not everyone is convinced, though, that the FISMA-based report card provides a clear picture of the security posture within federal agencies.

Avoiding a Black Eye

Alan Paller, director of research at the SANS Institute in Bethesda, Md., said that although the grades for 2006 appear to show an overall improvement, at least some of the gains likely are the result of "a few more agency [inspectors general] deciding it wasn't worth it to give a black eye to their departments" by issuing a poor assessment of their security practices.

Paller also pointed to continuing limitations in how agencies are assessed for security readiness. For example, one of the most important contributors to a good FISMA grade is the level of compliance within an agency to hardware and software configuration standards established by its information security team.

But few agencies have mechanisms for enforcing or verifying compliance with those requirements, Paller said. As a result, he said, the data that gets collected is often incomplete or unreliable.

The results of a recent survey of 30 federal chief information security officers also offered divergent views on the value of the FISMA report card.

The survey was conducted last month by the Merlin International Federal Research Consortium, a group of IT vendors led by Englewood, Colo.-based Merlin International Inc. According to the consortium, about 60% of the CISOs at large agencies — those with more than 10,000 employees — said that FISMA reporting provides real insight into the security of their IT environments. Just 36% of their counterparts at small agencies concurred, Merlin said.

"The question is whether complying with FISMA regulations is really making agencies any more secure," said Mark Zaluba, Merlin International's chief technology officer. A danger with any such grading system is that it can induce agencies to "teach to the test" and show compliance without really improving security, he added.

Chris Fountain, CEO of SecureInfo Corp., a McLean, Va.-based security services provider, said the FISMA report card has helped elevate awareness about IT security issues inside federal agencies.

But the grades agencies get are far too dependent on qualitative input instead of hard metrics such as vulnerability assessments and network penetration tests, Fountain said.

"You can't correlate between the grade an agency receives and the true level of security within that agency," he said. "Just because an organization isn't good at showing compliance [with FISMA], it doesn't mean they are bad."

Eight agencies scored an A- or above on the new report card, matching the number with failing grades. The biggest improvements were at the Department of Justice, which jumped from a D to an A-, and the Department of Housing and Urban Development, which went from a D+ to an A+.

Meanwhile, NASA and the Department of Education had the largest drop-offs. The space agency fell from a B- to a D-, and the Department of Education dropped from a C- to an F. The Department of Agriculture was given an F for the fourth straight year and had the lowest score overall — 29.5 out of 100 points.

The Department of Veterans Affairs, which got an F last year and then suffered a massive data breach when a laptop PC was stolen from an employee's home last May, didn't receive a grade this year because it has yet to file a FISMA report for 2006. ▸

Grant Gross of the IDG News Service contributed to this story.

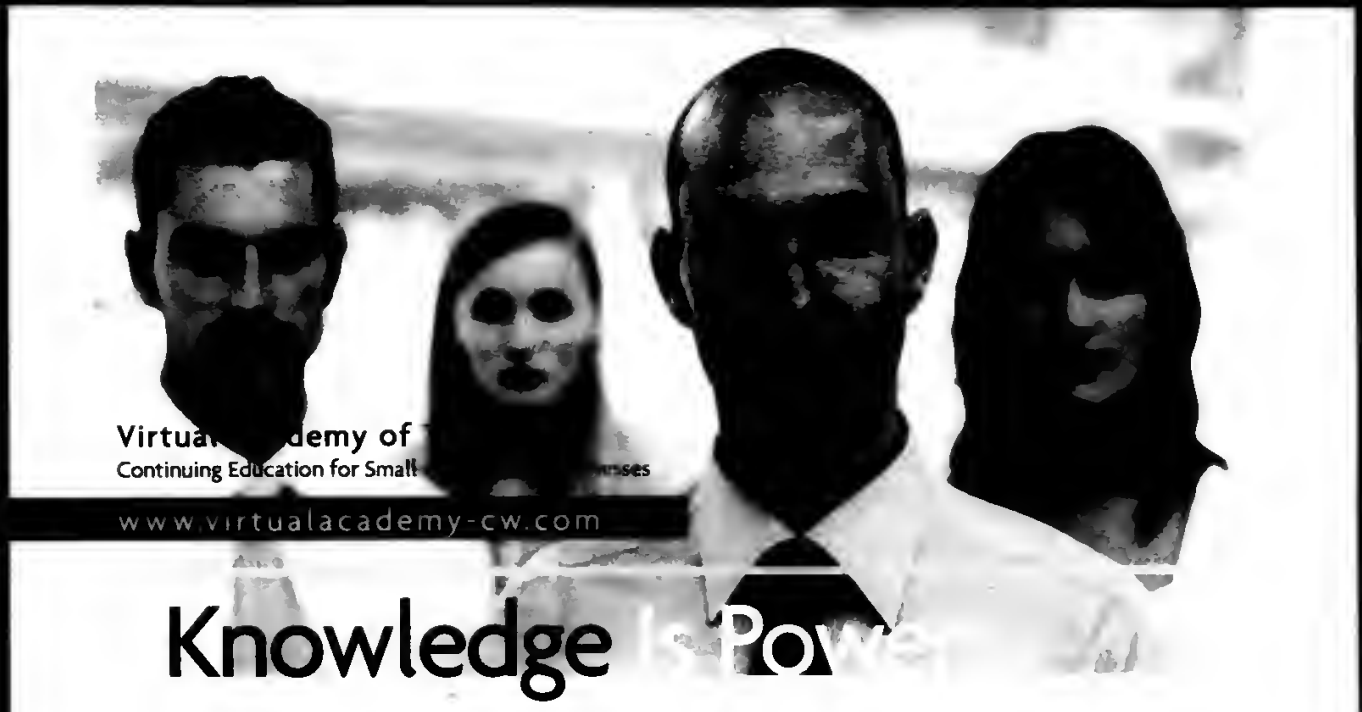
How They Rated

The number of agencies at each of the FISMA grade levels for 2006 vs. 2005

2005		2006	
A:	7	A:	8
B:	1	B:	4
C:	3	C:	1
D:	8	D:	2
F:	8	F:	8

SOURCE: SEVENTH REPORT CARD ON COMPUTER SECURITY AT FEDERAL DEPARTMENTS AND AGENCIES

> "The products that consume electricity today are increasingly digital, but the delivery system for electricity is still mostly analog. We're deploying an intelligent grid infrastructure to digitize the electric grid."
>
> GEORGIANNA NICHOLS, GROUP PRESIDENT, CENTERPOINT ENERGY HOUSTON ELECTRIC OPERATIONS



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BRIEFS

Sun Vows to File New DRAM Lawsuit

Sun Microsystems Inc. said it plans to file a new lawsuit after a federal judge threw out its complaint that Hynix Semiconductor Inc. and other dynamic RAM manufacturers illegally inflated prices. Sun filed the lawsuit in March 2006, alleging that it had been forced to overpay for memory chips used in its servers and storage systems. Judge Phyllis Hamilton acknowledged Sun's arguments but said she needs more details on DRAM market patterns.

Embarcadero to Be Acquired for $200M

Embarcadero Technologies Inc. has agreed to be bought by private equity firm Thoma Cressey Bravo for $200 million. The database tools provider, now a publicly traded company, will become a privately held firm when the acquisition is completed. Embarcadero makes tools that help database administrators manage and monitor corporate databases.

SourceForge to Add Search Engine

VA Software Corp. has signed an agreement with Krugle Inc. to embed Krugle's search engine into the SourceForge.net repository of open-source software. VA expects that the search engine will give developers direct access to the SourceForge site's 145,000 open-source projects.

Iona Buys SOA Tools Maker LogicBlaze

Iona Technologies PLC has purchased open-source software company LogicBlaze Inc. as part of an effort to boost its service-oriented architecture business. Terms of the cash deal were not disclosed. LogicBlaze's SOA-based Fuse product combines several open-source components, including the Apache ActiveMQ messaging system and the Apache ServiceMix enterprise service bus.

Continued from page 1

Domains

ments from three different domain monitoring services.

Goodendorf said that in most of those cases, she doesn't know the identities of the potentially infringing domain holders. Their registrations often are private, and when identifying information is available, it may be inaccurate. Subpoenas are sometimes needed to uncover the identities of individuals, she said.

Defensive measures, such as registering domain names that cybersquatters might target, can help, but only to a point. "We have tried to register common misspellings or to have letters transposed," Goodendorf said. But it's impossible to anticipate every name combination, she added, citing the cybersquatting site *capitolholidayinn.com* as an example.

Speculators Rule

As Goodendorf's experiences illustrate, the Domain Name System is showing signs of being out of control. Speculators now use automated software systems to re-register large batches of expired domain names. They're also helped by a loophole in the registration process that lets domains be tested for their potential profitability as pay-per-click advertising sites during a free five-day "tasting" period.

The World Intellectual Property Organization warned in a report issued last month that those practices threaten the interests of trademark holders and are causing confusion among Internet users. Francis Gurry, deputy director general of the Geneva-based WIPO, said in a statement that the new methods "risk turning the domain name system into a mostly speculative market."

Gurry added that instead of being used to identify specific businesses or other Internet users, "many [domain] names nowadays are mere commodities" to be bought and sold.

It's already possible to make astonishing sums of money selling domain names. *Domain Name Journal*, an online magazine published by Internet Edge Inc. in Tampa, Fla., reported that *diamond.com* fetched $7.5 million from a buyer last year and that *vodka.com* sold for $3 million.

What makes generic names such as those valuable is so-called type-in traffic from users who enter generic Web address names into their browsers to see what turns up, said Frank Schilling, a domain name investor and blogger who lives in the Cayman Islands. Schilling claims to own several hundred thousand domains, including generic ones such as *antarctica.com*.

Domain investors such as Schilling draw a sharp distinction between what they do in registering legitimate generic names and the actions of cybersquatters who register domains that use or closely resemble real brand or company names, such as *microsotf.com*.

That misspelled domain name was registered through EnCirca Inc., a registrar in Woburn, Mass. Private registration policies keep the domain owner's name and contact information hidden from public view. EnCirca does provide a Web interface for e-mailing the owner of *microsotf.com*, but a note sent by *Computerworld* received no response.

Citing the software advertising on *microsotf.com*, Tom Barrett, EnCirca's president, said he would call the use of that domain name cybersquatting. But Barrett added that he doesn't have the power to do anything about the name or the Web site without exposing himself to possible litigation.

Asked about *microsotf.com*, a spokeswoman for Microsoft Corp. said the software vendor wouldn't comment about a specific domain. But Microsoft announced last month that it had filed lawsuits against alleged cybersquatters in the U.S. and the U.K. The company also said that it had reclaimed more than 1,100 infringing domain names worldwide over the past six months.

Frederick Feldman, chief marketing officer at MarkMonitor Inc., a company in San Francisco that registers corporate domains and offers a variety of brand protection services, said a recent audit of 25 leading brand names found nearly 45,000 pay-per-click ad sites that use one of those 25 brand names in some way.

Fixing the domain name problems isn't simple. For instance, private registrations protect domain holders from things such as identity theft. And trademarks aren't always black and white. Domain name holders have complained of "reverse cybersquatting," in which a trademark holder attempts to gain control of a name that the domain owner considers to be a generic term.

Jason H. Fisher, an attorney at Los Angeles law firm Buchalter Nemer Fields & Younger, said the biggest obstacles to fixing the Domain Name System are its international nature and the reluctance of the Internet Corporation for Assigned Names and Numbers to take action. Fisher said ICANN "would rather do nothing than make waves."

How Internet Domains Are Used

SOURCE: DOMAINSTAT, JUNE 2006

Cybersquatting Can Yield Pay-Per-Click Bounties

REGARDLESS OF whether a domain name is legitimate, the economics of registering it are the same.

The registrar makes money. The registry that manages the top-level domain under which the name is registered is also paid. The Internet Corporation for Assigned Names and Numbers – the organization that oversees the Domain Name System – gets a cut of the registration fee as well.

And for illegitimate domains, the moneymaking doesn't stop there.

Many registered domains are "parked" at advertising services or intermediary portal sites that automatically populate pages with links to ads. For instance, *microsotf.com* takes you to such a page. Click on a link, and another page will appear with ad links to specific vendors, including Microsoft itself.

The amount of money that a cybersquatter can make using a misspelling like *microsotf.com* "would vary widely depending on the name," said Ron Jackson, editor and publisher of *Domain Name Journal*. "With a well-known trademark like a Microsoft, where so many people are trying to get on a given day, a good typo – meaning one that a lot of people would make the error of typing in – could generate thousands of dollars a month."

A cybersquatting site based on the name of a lesser-known brand might make only $10 per month, according to Jackson. "But some of these guys might hold tens of thousands of domains," he said. "If it costs them $10 a year to register a domain, and if they make $5 or $10 a month multiplied across thousands of domains, it becomes a significant amount of money."

Even though the only way to monetize such domains is by getting payments from upstream advertising services, that doesn't necessarily mean the services and the advertisers they represent are complicit with the domain owners.

Ad-streaming services "will make an attempt to try to police [cybersquatters], but they have so many millions of domains in their system that it can be difficult," Jackson said. He added that many cybersquatters go through intermediaries, such as the companies that park domain names on their portals.

– PATRICK THIBODEAU

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Microsoft Looks to Outshine Flash With Silverlight Tool

New technology for rich-media apps will broaden competition with Adobe

BY ELIZABETH MONTALBANO

MICROSOFT CORP this week will formally announce software for delivering rich media applications within multiple Web browsers as part of its broader strategy to compete head to head with Web design tools powerhouse Adobe Systems Inc.

Forest Key, a product management director in Microsoft's server and tools division, said the Silverlight technology is a browser plug-in that companies can use to offer video, audio and other types of interactive media on their Web sites. He added that Silverlight — which had been code-named Windows Presentation Foundation Everywhere, or WPF/E — is compatible with a range of browsers, including Internet Explorer, Firefox and Safari.

The tool, which leverages the WPF graphics framework built into Windows Vista, will make its debut at the National Association of Broadcasters (NAB) conference in Las Vegas. But it still isn't ready to ship. Key said Microsoft will release a beta version of Silverlight and announce general availability plans at its own Mix07 conference, which starts April 30 in Las Vegas.

He noted that the company is targeting content providers that want to distribute videos and other rich media over the Web, designers and developers who are building interactive applications, and end users who want the best possible Web-viewing experience.

Microsoft will highlight the video-delivery capabilities at this week's NAB conference. But Key said it also plans to show how companies can use Silverlight in a manner similar to the way they use Adobe's Flash software to create Web-based applications.

Microsoft says Silverlight will support Web applications with rich media content, such as this one featuring images from the movie *Fantastic Four*.

Keith Cutcliffe, an IT developer and analyst at ProAssurance Corp. in Birmingham, Ala., said he's skeptical that Microsoft will ever gain the faithful user base that Adobe has. However, he added, corporate users who have developed Flash applications to run on Microsoft-based Web infrastructures may switch to Silverlight and Expression — a companion suite of design tools — because of their underlying ties to Microsoft's back-end computing platform.

Cutcliffe has evaluated Silverlight and some of the Expression tools, and he said he expects that ProAssurance will use the products if they're as impressive in action as they were in the Microsoft demonstrations he has seen.

Scott Stanfield, CEO of Vertigo Software Inc. in Point Richmond, Calif., said he thinks Silverlight will fill a large gap in Microsoft's strategy to support the development of applications that combine the stability of desktop programs with the user experience of Web applications.

"Previously, Flash was the only answer," Stanfield said. "Now Silverlight becomes a viable alternative."

Microsoft is pitching the Expression tool set, which should be ready for general release in June, as an alternative to Adobe's recently released Creative Suite 3 software. Applications created with the Expression tools can be delivered to users via Silverlight, Key said. ▸

Montalbano writes for the IDG News Service.

Citrix Unveils Desktop Virtualization Tool

BY MATT HAMBLEN

Citrix Systems Inc. last week introduced Citrix Desktop Server 1.0, which it said will let IT managers deliver Windows applications virtually from the data center to workers as secure, on-demand services.

The new application delivery and virtualization offering can also provide additional CPU capacity, memory or storage to on-site and off-site virtual desktops as needs change, the Fort Lauderdale, Fla.-based company said.

Frank Norton, director of IT at Morrison Mahoney LLP, a longtime user of Citrix products, said the offering shows that "Citrix is headed in the right direction."

The Boston-based law firm runs Citrix Presentation Server to deliver applications to about 30 desktops, 40 laptops and 300 thin-client machines used by attorneys and other workers, who can occasionally be demanding, Norton said.

"Sometimes the users tell me, 'If you don't fix this laptop, I'm going to lose this client or this case,'" he said. "I get that all the time. They can be a little dramatic."

> Sometimes the users tell me, 'If you don't fix this laptop, I'm going to lose this client or this case.' I get that all the time. They can be a little dramatic.
>
> FRANK NORTON, [illegible] Morrison Mahoney LLP

Presentation Server can deliver applications to both servers and desktop systems.

The Citrix software has allowed Morrison Mahoney to use thin clients instead of PCs, making it possible for the firm to skip an entire PC leasing cycle and save an estimated $750,000 over six years, Norton said.

Mick Hollison, vice president and product line executive for Desktop Server at Citrix, said the offering updates the delivery capabilities of Presentation Server.

Citrix estimates that Desktop Server can cut corporate desktop management costs — which it says can reach $5,000 per user per year — by 40%.

UtilIT Technology Inc., a Citrix reseller based in San Francisco, recently installed Desktop Server for its own workforce of 25 people, and now it plans to market it to companies with 10 to 500 workers, said UtilIT President and CEO Chris Boone.

Boone said his company has sold a modified version of Citrix Presentation Server for three years to provide small and midsize customers with the features in the new Desktop Server.

"Desktop Server is a better product than Presentation Server [for those customers], since it is more user-friendly and has automated provisioning that allows a user to point and click to add a new profile," he said.

UtilIT also sells Sun Microsystems Inc.'s Secure Global Desktop, but Boone said Citrix Desktop Server is a better application for his customer base.

Desktop Server can be used with any PC, Mac or thin client, and with any Web browser, he said. Users can keep files on their own hard drive, or the files can be kept in storage in the data center, Boone explained.

Desktop Server will ship in the second quarter; pricing will start at $75 per user.

Zeus Kerravala, an analyst at Yankee Group Research Inc. in Boston, said the new offering keeps Citrix ahead of rivals like F5 Networks Inc. and Cisco Systems Inc. in the applications delivery business.

With Desktop Server, Citrix will now be competing against vendors like AppStream Inc. and Microsoft Corp. in the small and midsize business market, Kerravala said. ▸

HP Exec Says New Linux Group Will Push OS Toward Common Ground

BY TODD R. WEISS

In January, two open-source advocacy groups — the Open Source Development Labs (OSDL) and the Free Standards Group (FSG) — merged to form the Linux Foundation. Late last month, the Beaverton, Ore.-based nonprofit organization named a board of directors that includes **Christine Martino**, *vice president of Hewlett-Packard Co.'s open-source and Linux organization. Martino spoke with* Computerworld *last week about the newly created foundation's plans to continue to broaden the use of Linux. Excerpts follow:*

Q&A

What is the Linux Foundation going to focus on? It's really around three big things: standardizing and driving the Linux Standard Base [LSB] efforts, promotion and collaboration. I think it's very good to have a neutral party, a nonvendor, promoting Linux. It also sets up a platform for collaboration, whether it's [involving] the technical community, developers and even end users.

Has Linux become such a commodity in enterprise computing over the past few years that it's losing its luster of innovation and freshness? I think there's still a lot of innovation happening around Linux and a lot of freshness. Think about [running] Linux in virtualized environments and the work the foundation can do to help Linux APIs be the same, regardless of what Linux you're using or what virtualization technique you're using. How about increasing the scalability of Linux? There's still more work to be done there. A lot has happened in the last few years, but there's still more work to be done to get Linux used deeper into the data center and in much higher-level computing.

The foundation says it wants to focus on further developing the overall community "ecosystem" around Linux and open-source technologies. What does that really mean? It's really about intelligently looking at what the user base, the community and the developers need to continue to advance with Linux. When you look at the combination of OSDL and FSG, one asks, "Why did that happen?" Well, because Linux has matured and is in a different place today. It needs a different set of things to take it to the next level, which doesn't mean that innovation is gone or that freshness is gone. It means you're building on a foundation now where Linux has gone into the data center. So the ecosystem and the needs of the community have changed.

That's why we're looking at standardization — at the LSB and how we make it a standard that will continue to drive one Linux. That's the Holy Grail right there.

Where do you and other members of the board of directors want the Linux market to go in the future? What I'd like to see over the next few years is really great progress on adopting the LSB, and on things like carrier-grade Linux standards. Not just standards on paper, but standards that are tested and certified so they're useful for users. And I'd like to see real improvements in the availability of device drivers so customers really notice it's not the problem that it was before.

Is getting Linux widely adopted on corporate desktops still a realistic goal? I'm seeing the interest in Linux on the desktop grow a bit from a worldwide perspective. It's been something that has been pretty interesting in [Europe, the Middle East and Africa] and some other regions — certainly in developing countries. You didn't hear much about it in North America, but over the last six months or so, I'm personally hearing a lot more interest in Linux on the desktop. It's definitely a focus for the foundation. I think it's an area that is kind of a "watch this space" for the next couple of years.

What do you think it will take for the Linux Foundation to be a success? As the LSB gets more widely accepted, as we get closer to the vision of one Linux from a vendor perspective, that is critical. I'd like to see the foundation really [be] recognized as the voice of Linux from a worldwide perspective. If we can accomplish that, it would be a real win. ▸

> **We're looking at standardization — at the LSB and how we make it a standard that will continue to drive one Linux. That's the Holy Grail.**
>
> CHRISTINE MARTINO, HP VICE PRESIDENT AND LINUX FOUNDATION BOARD MEMBER

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GLOBAL

An International IT News Digest

India Faces Hurdles in Attracting Chip Makers

DALIAN, CHINA

INTEL CORP'S decision to build a $2.5 billion chip-making factory in China is a key loss for India, and it may underscore concerns about India's infrastructure, according to a Gartner Inc. report released last week.

Intel had rejected a substantial offer by the Indian government to locate the facility there, said Ganesh Ramamoorthy, a Gartner analyst and the author of the report. He said that India offered to provide up to a quarter of the cost of the project.

"Intel's decision to move to China was driven mainly by China's superior infrastructure facilities, compared with those in India, and Intel's need to be closer to its customers in China and Japan, even though China's supply of semiconductor talent is considered to be weaker than India's," according to Ramamoorthy.

In an e-mail, he said that problems with electricity, water and roads in India are hurting its efforts to attract investment by chip makers.

India has been trying to attract chip factory investments to build up its manufacturing talent.

■ DAN NYSTEDT, IDG NEWS SERVICE

Sohu.com Threatens Google With Lawsuit

BEIJING

SOHU.COM INC. last week threatened to sue Google Inc. for violating its intellectual property rights, just days after the search engine maker acknowledged using part of a Sohu database in its Pinyin input method editor (IME) product.

"We are very sorry that a leading U.S. company like Google, which comes from a country that respects intellectual property rights, has exhibited a complete disregard for intellectual property in China," Sohu said in a statement.

"We demand Google stop infringing on [Sohu] intellectual property and cease downloads and the operation of Google Pinyin IME. Otherwise, we will bring [legal] charges," the statement said.

A Google China spokeswoman did not respond to a request for comment. The company had earlier said that the Sohu database was "inadvertently" incorporated into its software.

IMEs allow users to type Chinese characters using their Pinyin Romanization equivalents and are found on most computers in China.

Google released the Pinyin IME on April 4. Within hours, Sohu engineers noted similarities between the Google tool and Sohu's Sogou Pinyin IME.

Google released an updated version of the software on April 6, but the questions continued and Sohu demanded that distribution of Pinyin IME cease.

■ SUMNER LEMON, IDG NEWS SERVICE

National Grid Sells U.K. Wireless Business

WARWICK, ENGLAND

NATIONAL GRID has agreed to sell its U.K. wireless business to Arqiva Ltd., a subsidiary of Sydney, Australia-based Macquarie Bank Ltd., for £2.5 billion ($5 billion U.S.).

National Grid Wireless, which is based here, is a major provider of turnkey wireless infrastructures to mobile operators in the U.K. Its products are used by the British Broadcasting Corp., Vodafone Group PLC, T-Mobile USA Inc., O2 Ltd., Orange SA, British Sky Broadcasting Group PLC and others.

National Grid CEO Steve Holliday said the sale is part of the company's effort to focus on its core U.K. and U.S. electricity and gas markets. The company also expects to offload its U.S. wireless business, he said.

The deal is expected to require approval by the U.K. Competition Commission because Arqiva and National Grid each own around half the transmission masts used by TV and radio stations in England.

■ TASH SHIFRIN, COMPUTERWORLD U.K.

GLOBAL FACT

Amount spent by small and midsize Japanese firms on IT-related products and services in 2006 up 7% from $38 billion in 2005

Indian Firm to Buy Agilent Services Unit

BANGALORE, INDIA

SOBHA RENAISSANCE Information Technology Ltd., which is based here, has agreed to purchase Folsom, Calif.-based Objective Systems Integrators Inc. (OSI), the telecommunications support systems business of Agilent Technologies Inc.

The deal is expected to close in June; terms were not disclosed.

N.J. Joseph, Sobha's director of marketing and sales, said the acquisition will help the company expand the services portfolio it sells in its primary markets: telecommunications, health care and corporate systems.

OSI will become an independent subsidiary of Sobha and will be based in San Francisco, Joseph said. "We want [acquired] companies to run as independent operations focused on their products business," he said.

Agilent officials were not available for comment, though Joseph said the Santa Clara, Calif.-based firm sold the unit to focus on its test and measurement business.

■ JOHN RIBEIRO, IDG NEWS SERVICE

French News Service, Google Settle Lawsuit

PARIS

AGENCE FRANCE-PRESSE has settled its two-year-old lawsuit against Google, a move that defuses the news service's allegations that inclusion of its content in the Google News site amounts to copyright infringement.

The news service said that it has signed a licensing agreement granting Google permission to use AFP news and photos.

AFP filed the lawsuit against Google in March 2005, alleging that the search engine maker offered, without permission, AFP material in Google News, which aggregates links, text snippets and thumbnail photos from thousands of media outlets.

Google argued that the site is protected by the fair-use principle, which allows for limited use of copyrighted material, such as headlines, text snippets and thumbnail images.

AFP would not disclose details of the licensing agreement, except to say that it would let Google use its material "in innovative, new ways."

In its lawsuit, filed in both the U.S. and France, AFP sought damages of at least $17.5 million (U.S.) as well as a court order barring Google from including its material in Google News.

Google didn't respond to a request for comment.

■ JUAN CARLOS PEREZ, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Uschi Schreiber, director general of the Queensland Department of Health, has been appointed chairwoman of the National E-Health Transition Authority. The authority is charged with creating standards and with developing processes for electronically collecting and securely exchanging health information across Australia.

■ SANDRA ROSSI, COMPUTERWORLD AUSTRALIA

The Office of the U.S. Trade Representative last week said that it plans to file two complaints against China with the World Trade Organization, including one accusing the country of being lax in enforcing copyrights. Under WTO rules, the two countries must try to negotiate a settlement over the next 60 days. If unsuccessful, the U.S. can then request that a WTO panel resolve the dispute.

■ GRANT GROSS, IDG NEWS SERVICE

ASUSTeK Computer Inc. in Taipei reported this month that its Web site was hacked and used to distribute attack code that exploited a critical Windows vulnerability. The malware exploits a flaw, patched last week, in the way Windows processes so-called ANI animated cursor files. The exploit was hidden in an HTML element on the front page of ASUSTeK's Web site.

■ ROBERT McMILLAN, IDG NEWS SERVICE

Sony Corp. has unveiled a new version of its lightweight Vaio Type-G laptop. The Type-G is the first Sony laptop to include a new type of drive that uses flash memory to store data instead of writing it onto a magnetic disk. The company said that a Type-G laptop with a 32GB flash drive costs about ¥65,000 ($545 U.S.) more than a similar system with a 40GB hard disk drive.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

Dell Inc. this month opened an application solution center in Hong Kong that will let customers evaluate products before final implementation in a production environment. The facility will also showcase products from Dell and its partners, as well as host workshops on products and technologies such as storage, system management and virtualization.

■ TERESA LEUNG, COMPUTERWORLD HONG KONG

Salesforce.com Adds Content Management Service

BY MARC L. SONOINI

Salesforce.com Inc. last week unveiled a new service that it said can be used to create and manage both structured and unstructured data.

The new Salesforce Content service is based on technology created by Koral Inc., a content collaboration software provider that Salesforce.com acquired last month.

Roh Finn, business development associate at Edison Venture Fund, a Lawrenceville, N.J.-based venture capital firm, said he expects the Salesforce.com developmeot community to hasten the creation of upgrades to the oew service.

Edison has used Koral's ContentExchange technology for three months. Employees use the product's Web 2.0 features to share and categorize articles, e-mail and researcb documeots.

Finn said that ContentExchange's content tagging and rating capabilities are strong and that its interface is easy to navigate.

Officials at San Francisco-based Salesforce.com said that tbe new service can help users share Microsoft Word documents, HTML pages, e-mails, and audio and video files.

They also said that the new offering expands Salesforce.com's push into the Web 2.0 business. Last month, the company unveiled AppSpace, an on-demand portal offering that's designed to function like a corporate version of the MySpace.com social network.

On-Demand Strategy

Salesforce.com CEO Marc Benioff said the new offering is the latest step in the compaoy's effort to provide services that can manage all information on demand.

Salesforce Content includes two services: a document- and file-management framework called Apex Content; and ContentExchange, which lets users publish content, tag it and share it with other employees.

Developers can use Apex Content to create applications that help end users with regulatory compliance efforts or clinical trials, for example, according to Salesforce.com.

The Apex Content service also includes a library feature that lets users check documents in and out, as well as lock documents that are being edited, the company said.

The ContentExchange tool lets users subscribe to documents and sends users alerts when documents they subscribe to are updated. It also allows users to comment about documents, and to rate and recommend them.

Salesforce.com said that it plans to disclose the pricing and availability of ContentExchange and Apex Content later this year.

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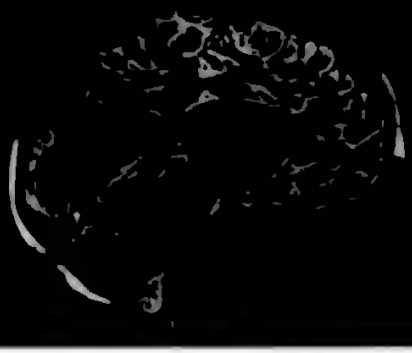


DON TENNANT

Incivility Creep

THERE was a lot of buzz last week about a racial slur made by radio "shock jock" Don Imus, and about a controversial blogging code of conduct proposed by technology publisher Tim O'Reilly. Absent from the discourse, as far as I am aware, was the contention that the two developments are related. They are.

O'Reilly's suggestion that blogging sites adopt a code of conduct was spurred by recent online death threats and vitriolic remarks made against high-profile blogger Kathy Sierra. Sierra was so shaken by the hate-filled attacks that she canceled plans to appear last month at O'Reilly's Emerging Technology Conference in San Diego.

Speaking to *The New York Times*, Sierra expressed disbelief at the number of people who suggested she should just get over it, and who said, "Get a life, this is the Internet." The prevalence of that attitude is, in fact, unmistakable. And it's creating far more harm than we seem to be prepared to acknowledge.

The harm lies in the notion that the online world is separate from and independent of the physical world and that there is an inherently distinct standard of civility and acceptable behavior associated with it. To some extent, there's a subconscious element to the separation that's evident even in e-mail. I get my share of vitriol in the form of venomous comments from readers on some of the views I express here. I respond directly to as many of them as I can, and it's not uncommon at all for me to get a far more cordial, sometimes apologetic, reply from those readers. There's often surprise, or even shock, that I had actually read what they had written. That there's a real human being on the other end of the "send" click often seems to be something of a revelation.

In his BuzzMachine blog last week, Jeff Jarvis took issue with O'Reilly's code of conduct proposal on several counts, standing on the premise that the blogosphere should not be treated as an otherworldly entity. "Are there rules and laws?" he asks. "Yes, the same ones that exist in worlds physical or virtual."

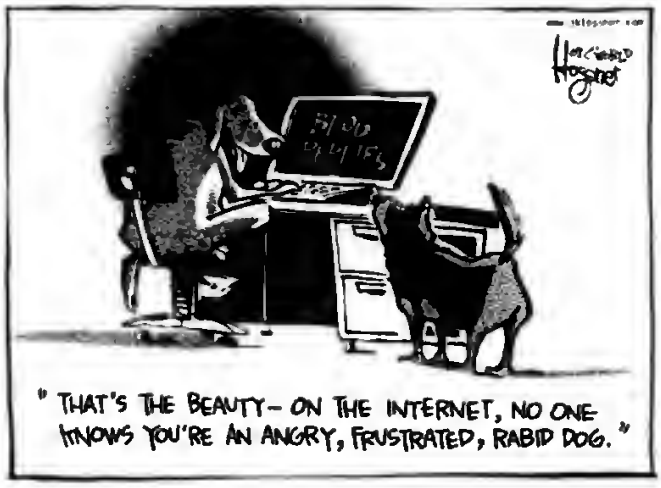
Jarvis is right — that's the way it should work. There should be no distinction. He's also right to specifically challenge the code's position that blog sites should not allow anonymous comments. Jarvis and I share the view that people who post comments should have the courage to stand behind their opinions by identifying themselves. But as a practical matter, that's unenforceable.

Others in the blogging community have expressed contempt for O'Reilly's proposed code of conduct, with varying degrees of outrage and ridicule. No doubt, it's easy to argue against the practicality of the proposal. But at least it raised the profile of the discussion. And it was worthwhile if for no other reason than this: It calls for bloggers to refrain from saying anything online that they wouldn't say in person. That's precisely what needs to be understood. If it isn't OK to do it in the physical world, it isn't OK to do it online.

We've been conditioned to accept and even expect a lower standard of civility online. What's especially harmful about that is the natural and inevitable incivility creep that is permeating other dimensions of our lives — most conspicuously, perhaps, in other media.

The despicable comments spewed by Imus toward the Rutgers womens basketball team should have surprised no one. We need to recognize that our online and physical-world activities are so inextricably intertwined that it's impossible to corral online's disturbingly low standard for preserving human dignity.

Don Tennant



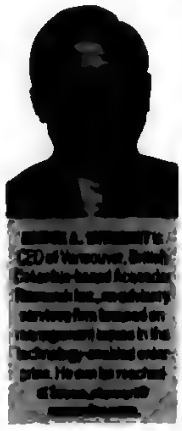
BRUCE A. STEWART

Get More From Outsourcing

MOST OF US fear outsourcing, and with reason: Our jobs are on the line. Still, most of us work for organizations that will engage in one or more outsourcing deals. Learning how to deal with the changes outsourcing brings can actually work in our favor. Here are some tips.

Work on the outsourcing relationship. Most companies put little time or effort into these relationships, which soon become little more than a battle over invoices, due dates and other contract-related issues.

It's critical to treat the relationship formally, assigning specific point personnel to handle it (even if at this point you have only a small internal office of the CIO). This is especially critical when most of the people on the "other side" are your own ex-colleagues. You might like the "feel good" factor of seeing your former colleagues continue to identify themselves as members of your team, but beware. I've seen some who still did that 18 years into an outsourcing relationship. The problem is that those people never made the transition to representing their new employer and thus were unable to bring its best thinking to bear on the client's interests.



Focus on the future. Most long-term sourcing transactions go through at least one major contract renegotiation midstream. There's nothing wrong with this — few of us are brilliant enough to anticipate 10 or more years of changing needs. But if you're going to go through a year's worth of renegotiation, why settle for a few minor tweaks in the pricing algorithm and not much more?

It's not enough to enter into renego-

tiations focused on what has changed about your company's IT needs since you engaged the sourcing firm. Focus on change itself, the inevitable by-product of passing time. You'll see, for instance, that tying the sourcing partner's resources to the configuration just makes it difficult for the partner to make changes that could save power, servers and other underlying costs.

You might also decide to build staff redeployment and retraining into the contract. You could pay a defined sum toward them each year while putting in safeguards that would protect you from paying for severance if the outsourcer must lay off some staffers because of a lack of work. Another idea for renegotiation: Pay the sourcer a bonus for cutting costs more than expected or consistently delivering quality results.

Commit yourself. When you outsource a business process, do it cleanly. I've seen outsourcing relationships in which a single transaction passed back and forth over the sourcing boundary five or six times. Commitment can only come with trust, but it's important to make up your mind that your objectives are indeed trust and commitment. And, make no mistake, a failure to commit shows up as a lack of success — on both sides of the table. Once you have established trust, you will be less concerned that you might be able to get something done a little cheaper through someone else, and you will become comfortable with not spelling out precisely how the partner should do everything. In other words, you will learn to treat the partner like the next department over.

By the end of 2008, more than $120 billion in outsourcing deals will be up for renewal. Many clients are in deeply unhappy relationships, yet most will end up outsourcing again. Now is the time to hone your ability to form partnerships. You'll be mastering an in-demand skill. ■

VIRGINIA ROBBINS

Working It Out With a New Boss

A GOOD FRIEND of mine moved to Seattle. He said he wanted to live in a more conventional city than San Francisco, but I think the real reason is that he must really like rain. But he hasn't been talking about the weather; it's getting used to his new boss that's been a challenge for him.

His new boss has no clue about his area of expertise. She cuts off discussions after about 30 seconds and tells him to do what he feels is best. She has made it clear that she has no time to discuss what he thinks are strategic issues. She tells him to just take care of it — whatever "it" is.

For some of you, she might sound perfect. It's appealing to be given the freedom to do what you feel is right. Such a hands-off approach could be seen as a compliment to your expertise. So, what's my friend's problem?

It's this: Bosses who don't get involved in your work aren't able to give you support when you need it. When it comes to budget allocations, raises or getting a plum assignment or a job after a merger, the boss who knows and cares about what you do will be more generous than one who does not. So, how do you get a busy supervisor to understand and care about your work?

If you're a new employee, the first thing you need to do is to discover the "truth" about your boss. Take the office gossip out for coffee and let him know that, while you like your boss, you're having trouble connecting with her. What might he know that could help you out? Few people will refuse a direct request for help, and your office gossip is likely to inundate you with both useful and not-so-useful stories. Listen to them all, but don't regard them all equally. The point is to develop a basic understanding of your boss, not to get dirt on her.

If the office gossip feels that he has been mistreated or slighted by your supervisor, he might tell you things about her that are extremely hurtful. You're probably going to have to forget the worst of them if you want to continue working for your boss. Remember, too, that most gossips want you to share something juicy in return. Be careful what you tell him, since he talks to everyone about everything.

Armed with new knowledge about who your boss is, you can begin to try to figure out her behavior toward you. Is she simply too busy to deal with you? Are you temporarily assigned to her? Or is it that she's being as nice as she can be to someone she likes well enough but whose work she just doesn't see as important?

If it's that last possibility, then it's best you know now so you can restart your job search immediately. Otherwise, your next step is to ask your boss to lunch. If she's like most bosses, she's probably aware that you need something more from her and will be relieved that you've raised the issue. Tell her that your main interest is that the two of you have a great working relationship. But the only way to get good feedback and resolve this issue is for you to be upfront.

So enjoy lunch. It could be the start of a new relationship with your boss. ■

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site:
www.computerworld.com/columns

READERS' LETTERS

A Teacher Recalled

THANK YOU for the nice article on Dr. Kennedy ["Farewell Ken Kennedy: Computer Scientist, Scholar, Teacher," *Computerworld.com*, Feb. 12]. It really isn't hype to say he was a unique individual. My husband took some of his courses and it changed his life.

Pat Rangel
Analyst, Grapevine, Texas, pat.rangel@verizon.net

There's Wisdom in Granting Time Off

MATHIAS THURMAN wrote about giving his single point of failure some comp time ["When a Go-to Guy Takes a Vacation," Security Manager's Journal, March 12]. That really struck home. All too often, IT's emphasis on "keeping the lights on" trumps the need for personnel to have lives. Many bosses wouldn't be willing to let a person like Thurman's employee off for a few days to recharge, yet I'm sure that most would be more than willing to complain about technical leads who leave the company on little notice "for no reason." As high-tech as IT is, some of the old clichés, such as "You reap what you sow," still ring true.

Bill King
Mt. Laurel, N.J.

Government Is the DST Scapegoat

THE RECENT change in daylight-saving time frustrated many IT managers, who wished they could press "pause" to supply themselves a few extra weeks this spring. Companies made the deadline with few issues, but it was hectic. The article "DST Arrives; Time Switch Appears to Have Been Smooth," by Todd R. Weiss [*Computerworld.com*, March 11], states that U.S. Rep. Edward Markey's site includes inadequate information about the impacts of the law. Can the IT community legitimately be frustrated with federal lawmakers?

Most people leading IT departments' DST projects had no experience with such changes and would have benefited from as much advance notice as possible. IT project teams needed to schedule time for testing, implementation and communicating with their users. But Congress had passed the law in plenty of time, and the DST change first appeared in the popular media in August 2005. At that time, diligent IT managers started thinking about the impact to their systems.

No, the high-tech industry, not Congress, is the party at fault. First, software vendors did not provide patches and guidance early enough. It's likely that patches were delayed because software makers have been burdened with day-to-day patching. Second, industry advisers and specialized media were slow to address the issue.

Forrester Research held a teleconference, but not until Feb. 23, when most companies' implementation projects should have been well into the analysis phase. Gartner released a series of advisories, including implementation advice, on Feb. 9, but many companies' implementation projects were already under way. As of mid-February, fairly close to the implementation date, most IT publications were not headlining articles, and others were not covering the issue at all.

Software consulting companies approached small and medium-size business that have less in-house IT staff and might need assistance implementing the changes, but the consulting companies were not as actively marketing the issue months ago, when time was on their side.

Jill Rothenbacher Maher
Milwaukee

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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6,931,434

Secure Remote Inspection

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THERE'S A REASON BIGFIX HAS TAKEN OVER THE PLANET!

STRATEGIES & TACTICS

Inside

Managing Relationship Managers. These professionals bridge business and IT, but the CIO's vision is what shapes the role. PAGE 28

Future Watch: Smart radios PAGE 33

Best Places to Work: The South Central U.S. PAGE 36

Security Manager's Journal PAGE 36

Opinion: Bart Perkins PAGE 40

The fast food industry has been slow to adopt technology, but innovators are seeing transformational results. **By Robert L. Mitchell**

Would You Like **Wi-Fi** With That?

McDONALD'S best-kept secret may be that it offers free Wi-Fi with every meal. More than 8,000 of its restaurants provide high-speed wireless service to customers. The fast food giant has yet to fully promote the perk, but it has already attracted one group: Gamers using Nintendo DS systems currently account for 25% of the Wi-Fi traffic in its restaurants.

Although Wi-Fi attracts customers, that's not why McDonald's put it in. "It gives us a platform to use wireless applications within the restaurant," says David Grooms, vice president of IT at McDonald's USA.

For example, handheld devices are used for order-taking and inventory management. But since McDonald's has opened up access to draw in more customers, "getting the word out that we are a secured wireless haven is really big for us this year," Grooms says.

Wi-Fi is just one of several technologies that are beginning to transform the restaurant business. Others include tools for automating operations, contactless payment systems, kiosks, digital menu boards, and Web and mobile ordering and payment technologies. Such innovations are a big leap for an industry that only recently began accepting debit and credit cards, and change is still coming slowly.

"Most operators don't even know what's out there," says Aaron Allen, founder and CEO of

Continued on page 28

> Getting the word out that we are a **secured wireless haven** is really big for us this year
>
> **DAVID GROOMS**, VICE PRESIDENT OF IT, McDONALD'S USA

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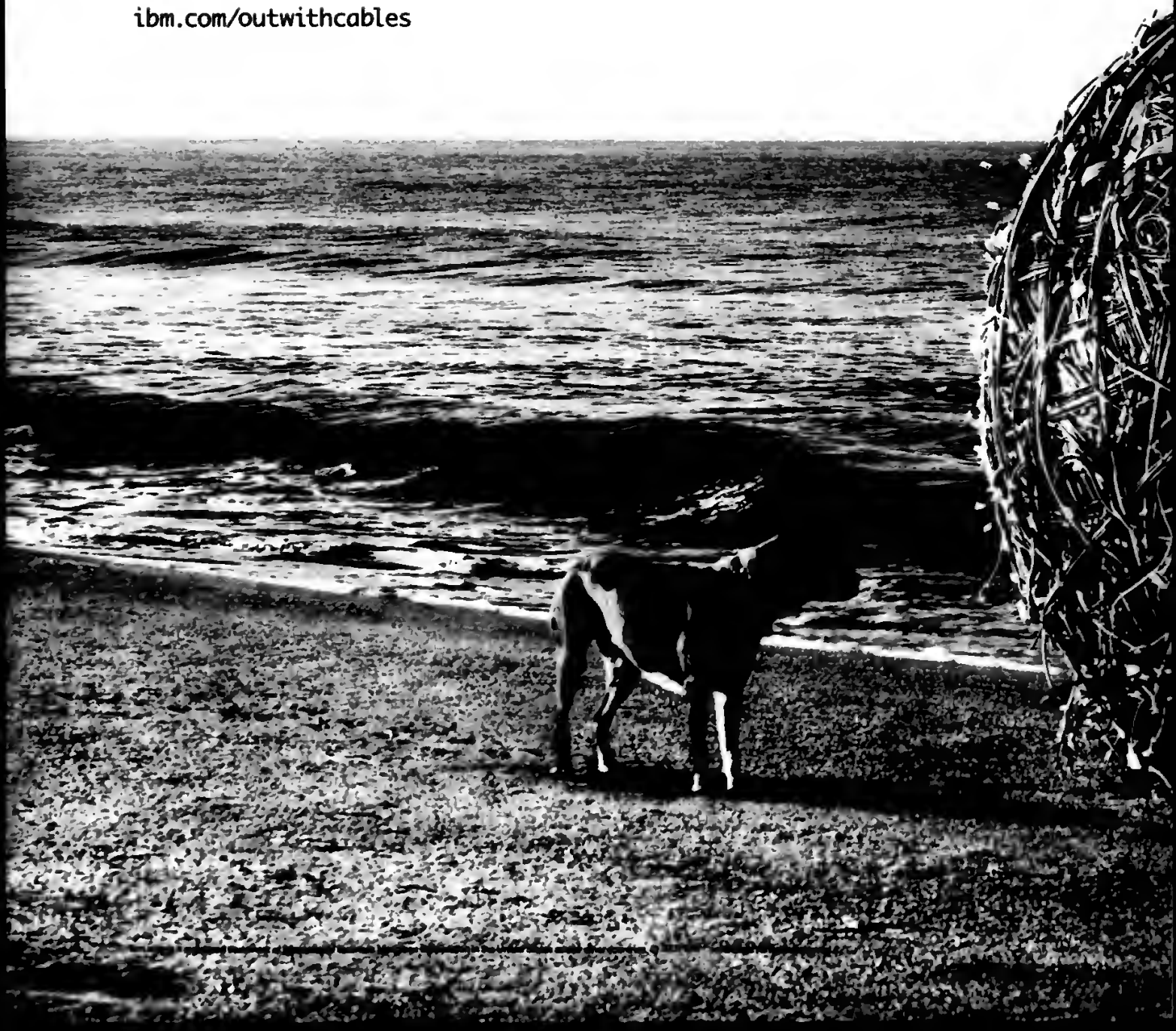


Keeping Tabs On **Diners**

Fatz Café, a chain of 35 restaurants based in Taylors, S.C., has tested wireless technology from ESP Systems Inc. in an effort to improve customer service and turn tables over faster.

The system includes a wireless hub at each table that monitors table status (available, occupied ready for busing, etc.) and alerts staffers. It also lets customers call their server at any time – "before they get frustrated," says CEO Steve Bruce.

But the system is designed to help ensure that diners never need to press the call button. It communicates with a base unit at the host station as well as with servers and staffers, who wear small wireless devices about the size of a watch. Servers are notified when a customer has been seated and when food or drinks are ready to serve. Bruce says that tables turn over 10% faster in the two pilot restaurants and that customer experience has improved.

Bruce also experimented with a wireless payment system from VeriFone Inc. that responds to customer fears of identity theft. It allows customers to swipe credit or debit cards and pay their bills at the table without letting the cards out of their sight. The device also saves the server two trips to the table, Bruce says.

– ROBERT L. MITCHELL

Continued from page 25

Quantified Marketing Group in Orlando.

"Restauraots are the industry that technology forgot," says Steve Bigari, CEO of I3 Consulting and Management Service in Colorado Springs and a former McDonald's franchise operator. But he sees disruptive technologies shaking up the business in the next five years. "Restaurants that lead are going to put a lot of people out of business," he predicts.

Arm's Length IT

Of the one in three restaurant operators using more technology than they were three years ago, half say that they've increased productivity, according to a survey conducted by the National Restaurant Association. As for the other two-thirds, tight margins and fear of alienating customers have been factors in their reluctance.

"The industry has kept a lot of technologies at arm's length because of the feeling that it takes away part of the romance" of dining out, Allen says. Even so, 50% of fast food operators polled plan to allocate a larger proportion of their budgets to technology this year.

Strong growth is fueling the move toward automation. The restaurant industry will hit $537 billion in sales this year, according to the National Restaurant Association. Much of that growth comes from changing consumer habits. In 1995, 25% of all food dollars was spent in restaurants. Today, it's 48%.

Technology is also appealing because food service is notoriously labor-intensive, employing 12.8 million people. "When you apply any technology, the gains can be quite substantial," says Hudson Riehl, senior vice president of research at the association.

"For any of our clients that don't have these systems, the competitive disadvantage is scary," says Allen.

Turbo Drive-through

Drive-through orders can account for up to 75% of restaurant sales, according to Greg Buzek, president of IHL Consulting Group Inc. in Franklin, Tenn. But ordering is a significant bottleneck. That's why Miami Management Inc., which owns 16 Wendy's franchises, is using voice-over-IP (VoIP) and call center technology to speed ordering at drive-throughs at three stores. It plans to have its remaining stores online by June.

Brian Fields, director of operations at the Lexington, Ky., Wendy's franchisee, says an integrated point-of-sale (POS) system from Andover, Mass.-based Exit41 Inc. places two order stations in front of the drive-through lane. The system also uses broadband and VoIP technology to relay customer orders to a call center run by Miami Management in Lexington. Completed orders are immediately relayed to the store's kitchen order screens and POS station.

From the order stations, traffic merges into a single lane where customers pay and pick up their orders. A digital camera associates an image of the customer and vehicle with each order so that customers are billed correctly and receive the right food. The system has increased peak lunch-hour traffic from 112 cars per hour to 137, says Fields.

The system also improves order accuracy because of the clarity of the VoIP connection and because the call center staff focuses only on taking orders. Voids from incorrect orders have dropped by half. Fields says that the system will pay for itself in less than three years.

Next, Fields wants to let customers swipe a card at the order station and skip a stop at the payment window. That capability, says Exit41 CEO Joe Gagnon, could speed transactions in more ways than one. Since more than 50% of customers place the same order every time, Exit41's systems may soon associate the credit, debit or gift card with the customer's order history, present his regular order and ask him to simply confirm it.

Selling Points

Call center technology hasn't been limited to drive-throughs. Pizza Hut Inc. automates delivery orders with a service from Jacent Technologies Inc. in Santa Clara, Calif., that combines a hosted call center with an option to use an automated attendant with natural-language speech-recognition capabilities. Orders are distributed to the appropriate store's kitchen and then to the POS system for payment. "We have plug-ins for different systems," says Trevor Stout, Jacent's CEO.

That's important because in many chains, franchisees use various POS systems, making technology initiatives more complex, says Buzek. "The next big trend is replacement of the POS and moving to more open systems," Stout says.

Self-serve kiosks, which have languished for years, may finally be ready to take off. Buzek says the average price of an order taken at kiosks is 20% to 25% higher, and the kiosk "always asks you if you want to upsize."

The latest IBM POS registers have displays that face the customer and enough processing power to drive full-motion video, says Jerry Leeman, worldwide segment manager for food service and hospitality at IBM. Unstaffed order stations can be configured as self-service kiosks, complete with swipe-card readers. These have been popular at a deli chain that's doing a pilot because customers can customize orders and ensure they're right, Leeman says.

Digital Signage

Signage is the biggest obstacle to the timely rollout of new products in fast food restaurants, Leeman says, and digital menu boards could help resolve that.

Digital menus are typically LCD or plasma displays that combine video images with live menus that can be updated from a central location. Likewise, digital paper — electronically updatable displays that retain the image even after power is turned off — could allow for rapid wireless updates of window signage. The problem, Leeman says, is that digital displays are still a major capital expense, although prices are continuing to drop.

> **Restaurants** are the industry that technology forgot.
>
> **STEVE BIGARI**, CEO, I3 CONSULTING AND MANAGEMENT SERVICE

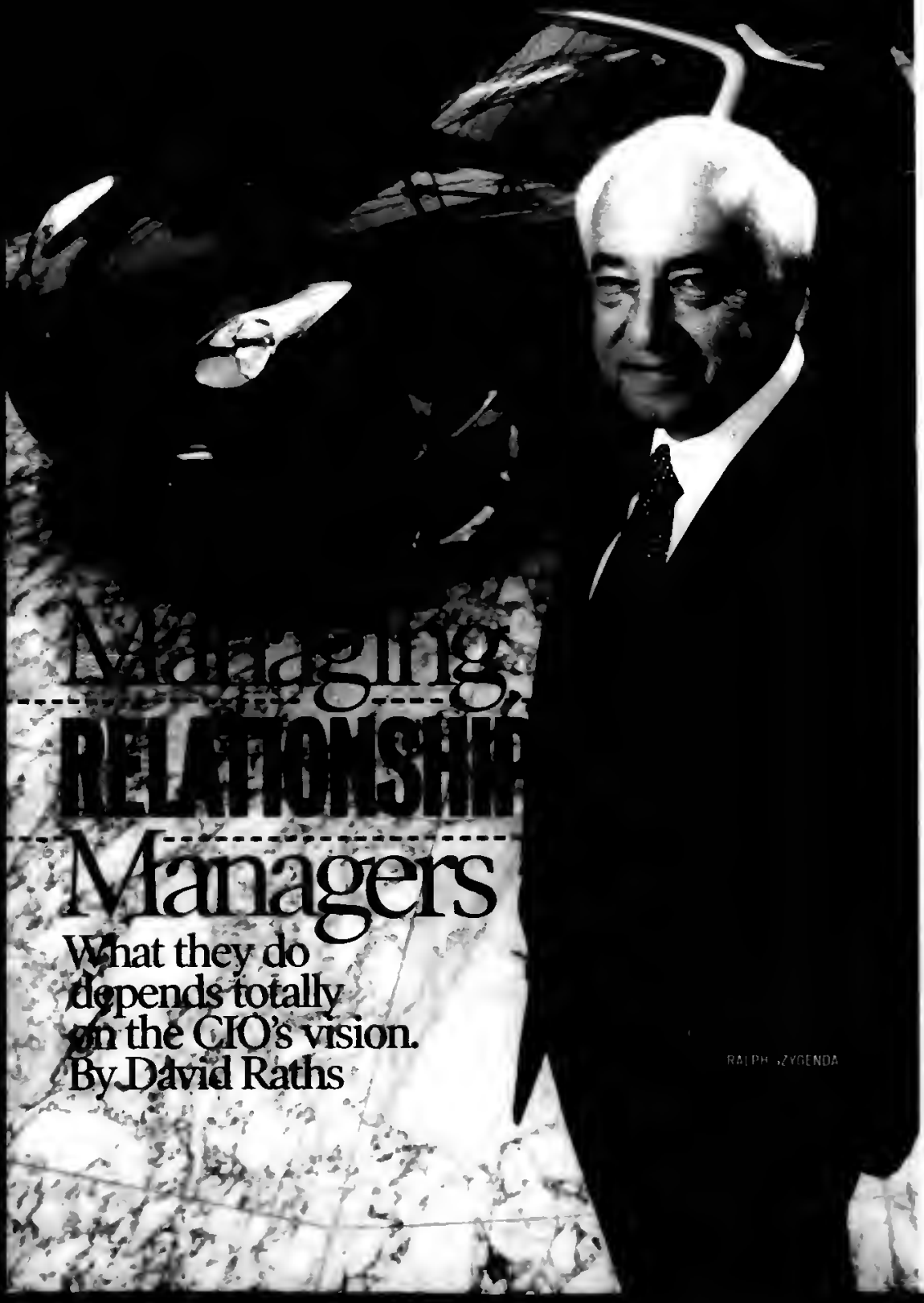
As the technology becomes more economical, it will be possible to use digital signage not just to keep all stores up to date but also to respond quickly to changes in the marketplace. For example, integrated systems in the store could vary pricing after the lunchtime rush hour based on how many salads are left over.

Domino's Pizza Inc. in Ann Arbor, Mich., is experimenting with digital displays that present order status to customers who come in to pick up their food. CIO Chris McGlouthlin is also investigating the use of GPS technology for the delivery staff. But for now, he says, stores will continue to rely on paper maps printed using Microsoft Corp.'s MapPoint software.

The mobile Web has perhaps the greatest potential to disrupt traditional fast food restaurant business models. While Domino's and some restaurants already offer Web-based ordering with local pickup, the mobile Web takes that a step further. "Whatever you have on your hip, you'll be using it to order and pay for your food," says I3 Consulting's Bigari.

In the future, it may be possible to order and pay with your wireless handheld or Web-enabled cell phone, and restaurants may use location-based services to estimate your travel time and make sure your food is hot when you arrive, says Bigari.

Technology innovations may have another impact as well. With automated payment and ordering systems inside the restaurant, at the drive-through and over the Web, "you could literally bury a kitchen" in orders, he says. The fundamental design of restaurants will need to change. But that, says Bigari, is a good problem to have. ▸



Managing RELATIONSHIP Managers

What they do depends totally on the CIO's vision.

By David Raths

RALPH ,ZYGENDA

IN THE tech movie spoof *Office Space*, one employee trying to save his job explains to efficiency experts that "engineers are not good at dealing with customers."

An increasing number of CIOs recognize that, like the engineers of the movie's soulless corporation Initech, some of their companies' IT staffers aren't very good at dealing with customers either. To address the problem, they've created positions with titles such as business relationship manager or customer relationship manager to help them relate to internal customers.

The people holding these jobs are charged with changing the perception of IT from that of a passive dispenser of requested services to a proactive provider of business value. But their success has been as mixed as the visions of the CIOs who employ them. Here are three different approaches.

> **Our longer-term goal is to have them work on strategic issues, but no customer is going to allow this business liaison to intervene on business re-engineering before we've established trust.**
> **GEORGE BAKOLIA,** CIO, STATE OF NORTH CAROLINA

WALK FIRST; RUN LATER

After consolidating the IT infrastructure of 25 executive agencies in 2006, the state of North Carolina's Office of Ioformatioo Technology Services in Raleigh surveyed state workers and discovered that they thought communication between the agencies and IT was poor. State CIO George Bakolia responded by creating a business relationship management (BRM) unit to improve communication and foster trust.

Most new processes in state government have a strong IT component, but IT often isn't consulted early enough for maximum effectiveness, says Wendy Kuhn, director of BRM. "By establishing this relationship of trust, we're hoping to change that," she says.

The business people want to have a single, responsive point of contact in IT, Bakolia says. So he looks for "excellent communicators who can relate to customers and articulate to the techies in IT what the business really needs."

With that emphasis on communication, three of the four people who have been hired as relationship managers do not have IT backgrounds.

Kuhn says that the group will gradu-

Continued on page 32

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Special

Continued from page 29

ally transition from just reacting to service issues to studying the IT needs of internal customers and recommending changes. Bakolia agrees.

"Our longer-term goal is to have them work on strategic issues," he says, "but no customer is going to allow this business liaison to intervene on business re-engineering before we've established trust."

Brian Layh, one of the relationship managers, says being an advocate for business customers within IT can be challenging because he needs to work "both sides of the fence," and that includes pointing out areas where IT can improve. Layh looks forward to providing strategic advice to agency heads. "It's not hard for me to see new ways that technology could help agencies meet their business goals," he says. "We just need the relationship to mature enough where we can pursue that."

STRATEGIC FOCUS

When John Shea became CIO at Eaton Vance Management in Boston a year ago, he inherited an IT organization that included six internal customer relationship managers. The positions had been created to deal with service problems. "We had a bad reputation as an IT group," recalls Frank Wertz, director of IT client management. "The CRMs were added in 1999 because we wanted to calm the noise down."

They have to be client advocates and that is a different skill set than most IT people have.
JOHN SHEA, CIO, EATON VANCE MANAGEMENT

At first, the CRMs responded to tactical needs, says Wertz, who worked as one before being chosen to lead the group. He recalls helping executives from a newly acquired line of business navigate the initial shock of integrating their systems. "If they had tried to solve that by working with project managers and application developers on their own," he says, "the communications would have broken down fast."

Today, each of the CRMs covers five or six related business units at the investment management firm so they can develop expertise in areas such as finance, investment and equity, Shea says. The CRMs meet with business leaders to discuss their strategic project needs, and then IT's project management office prioritizes those requests.

Some of the CRMs were recruited from within Eaton Vance's IT department; others were originally consultants hired to assist on IT projects. Shea says that finding people with the right mix of skills has been difficult.

"They have to be client advocates, and that is a different skill set than most IT people have," he notes. "They have to know the business and be able to prioritize that unit's IT needs."

Shea sees the customer relationship manager role as part of a larger effort to break down barriers between business and IT, but he acknowledges that there are still challenges to work through. For example, some business line executives consider the customer relationship manager an extra layer of bureaucracy, and some CRMs have effective relationships with a few of their executive partners and not with others, he says.

One exasperating problem is that because of the CRMs' tactical origins, business groups still sometimes treat them as a help desk. "We're struggling to maintain the strategic level rather than the tactical level," Shea says.

He is quick to admit that the customer relationship manager role is a work in progress. "We've created this structure, and it's not perfect right now," he says, "but we are working on making it better."

SHIFTING GEARS

Ten years ago, Ralph Szygenda took charge of IT operations at General Motors Corp., a highly decentralized $200 billion company with 7,000 different information systems. As CIO, he created five IT positions, called process information officers (PIO), to push corporate IT standards — getting all engineers to use the same CAD program, for example. Eventually, those PIOs helped eliminate 4,000 of those 7,000 IT systems.

Szygenda accomplished this by using what he calls a "matrix" of regional CIOs, who oversee IT services for all the business units in their regions, and global PIOs with deep expertise in business areas such as supply chain or manufacturing quality that transcend regions.

"If you have to convince the business leaders to give up an information system, you had better be seen as a business expert and not just an IT person," Szygenda says.

The PIOs have IT experience, but they also tend to have experience in business process improvement in the auto industry.

Szygenda purposefully created organizational tension that is worked out in what he calls "debating society" meetings. "The CIO has a view of today's needs, and the PIO has a longer-term strategic vision," he explains. "This way, I always have two views in front of me — the local and the strategic — and can't get snookered by one or the other."

Terry Kline, global product development PIO, agrees that the matrix setup drives contention about issues such as which CAD program to standardize on. "But this process forces them upfront," he says. "On the back end, they're much tougher to deal with."

Kline, whose auto industry experience includes stints as a director of IT and a CIO, describes the PIO job as a great challenge. "Often, the CIOs own the budget and the resources, so you have to be an educator and convince them to do something," he says. "You have lots of different bosses and customers: design centers, engineering centers, business line bosses, regional CIOs and Ralph. At some point you have to set the direction, or they are going to set the direction for you."

Kline says that line managers see him as a critical piece of their business team. "I am one of the few people who visit every engineering center," he says, "so I often end up playing the role of conduit between regional vice presidents to spread the word about best practices such as how we share data."

In 1999, GM complemented the PIOs by creating business process officer (BPO) positions that also line up horizontally across the company. The BPO makes decisions about unifying and streamlining efforts across the global corporation's business units, whether they involve IT or not. For instance, a BPO might shift production from one plant to another to gain efficiencies.

When a change involves computer systems, a BPO has a ready partner in the PIO. "When the business process officer sends out a message that he wants to be able to engineer any product anywhere in the world he sees fit, it makes my job easier," says Kline.

Szygenda says that Kline and BPO Bob Lutz "practically live with each other. They speak exactly the same language."

In many organizations, relationship managers fail because they're not seen as business leaders, Szygenda says. "The key is that these people have to be business-oriented and measured by business results," he says. "If you asked our head of engineering about Terry Kline, he would say, 'He's a whiz — a business whiz.'"

Raths is a freelance business writer in Philadelphia. Contact him at draths@mac.com.

Managing With Less

Princeton University CIO Betty Leydon likes the concept of relationship managers, but she doesn't have the budget to create the positions. Still, that hasn't stopped her from working to improve communication between IT and her customers - the heads of administrative units and academic departments.

Soon after she arrived on campus in 2001, Leydon asked her 280 Office of Information Technology employees to volunteer as "ambassadors" to develop personal relationships with executives in the 50 academic and 30 administrative departments at the Ivy League university.

"Sometimes departments are limited in their use of IT because they don't know what is possible," she says. "The ambassadors can fill them in regularly on what IT can do for them."

Surveys show that the program has improved the perception of IT responsiveness, Leydon says. And feedback to ambassadors has led to a strategic collaborative software initiative and a push for digital signature technology.

Sometimes departments are limited in their use of IT because they don't know what is possible.
BETTY LEYDON, CIO, PRINCETON UNIVERSITY

"The ambassadors aren't the perfect solution," Leydon notes, "but they were the best I could do given budgetary constraints. They are another link to our customers, and their focus on immediate needs can translate into strategic projects."

- DAVID RATHS

Wireless Wises Up

FUTURE WATCH

Smart, adaptable radio frequency devices that coordinate efforts will remake the wireless landscape. **By Gary Anthes**

AT A TIME when news of advanced technologies seems dominated by the likes of robots, nanogadgets and supercomputers on a chip, the subject of radio might seem a tad boring. But software-defined radios and cognitive radios hold promise for making our wireless networks far more powerful and useful.

Andrew Lippman, who leads the Viral Communications Group at the MIT Media Lab, sums it up this way: "The real core of the idea is not to regard radios as individual, discrete units, but as members of a community."

His idea stems from several related concepts. One of them, software-defined radio (SDR), is all about replacing much of the hardware in radio frequency devices — cell phones, GPS units, wireless laptops — with software, giving them unheard-of capabilities. For example, an SDR could morph from a cell phone to an FM radio receiver to a GPS receiver as directed by its user or even a remote party.

Cognitive radios go a step further by being aware of their environments. The most important application in the near term is to enable a wireless device to automatically and rapidly hop from frequency to frequency looking for uncongested slices of the radio spectrum. And cognitive radios can learn: Your GPS-equipped cell phone might remember that it has encountered dead spots along a certain street and then seek an alternate communication path the next time you are there.

Lippman says cognitive radios in a local area can work on an ad hoc basis with one another rather than taking direction from a central router, server or cell tower. They can "vote" among themselves — dynamically, and based on local conditions such as hot spots and dead spots — to determine the clearest and most power-efficient route for a signal to travel. The radios act like bucket brigades for messages, and the closer they are to one another, the lower their power requirements are and the less interference they generate. And since the radios add spectrum capacity even as they use it, the network "can scale almost without bound," Lippman says.

He calls this kind of arrangement "a virtuous cycle," which he explains this way: "An analogy is a wedding — as more people attend, there are more conversations, but each one is softer, so they don't interfere. Most current systems are a wedding where everyone uses the PA."

Fluid Dynamic

Lippman is working on another application, called "fluid voice." "Think about it as a party line where all the phones in an area can hear what anyone else is saying," he says. "You have phones now where you push to talk, but this is push to listen. It allows you to think about communications in a different way." Firefighters responding to an emergency could use fluid voice so if one of them got into trouble, he could "shout" a call to all of his colleagues without having to pause to tell the device who he wanted to contact.

But users of fluid voice would also be able to communicate with just a few other users on the party line. "Think of the user interface as being a screen with a dot for everybody you could be listening to," Lippman says. "The closer to the center you move the dot, the louder they become. If there is somebody you don't want to hear, you push them to the edge."

Joseph Evans, a computer science professor at the University of Kansas, is involved in research in a similar area. In his CogNet project, he hopes to develop open-source radio protocols that can be used to build cognitive wireless networks that are adaptive and agile. For example, Evans says, such a network might work in broadcast mode to warn residents of a city about an approaching hurricane. After the hurricane strikes, the network might quickly morph into one that provides a dedicated secure channel for emergency workers.

While cognitive radio works at the physical layer — by varying things like frequency and modulation — CogNet would span layers of the communication protocol stack (see diagram). Explains Evans, "The application may say to the network layer, 'I want you to be a broadcast channel,' and the radio then tells the physical layer to make my cell phone network behave like it's FM radio. In other words, ring everyone's phone and tell them to get out of the way of the storm."

The Moore's Law-driven ability to put a lot of processing power into small, cheap devices, coupled with the replacement of hardware with software, opens up many promising new paths for radio, Lippman says. "For years, we have tried to make the simplest possible receiver so people could afford them. So we piled all the intelligence into the transmitter," he explains. "But now the whole engineering basis has turned around. It's suddenly feasible to put lots of processing in consumer radio."

Not so boring after all. ▸

Hogs and Hackers

[redacted] with software in a radio frequency device makes it much more flexible. Unfortunately it also makes it more vulnerable to abuse, according to Jung-Min Park, a professor at Virginia Polytechnic Institute in Blacksburg.

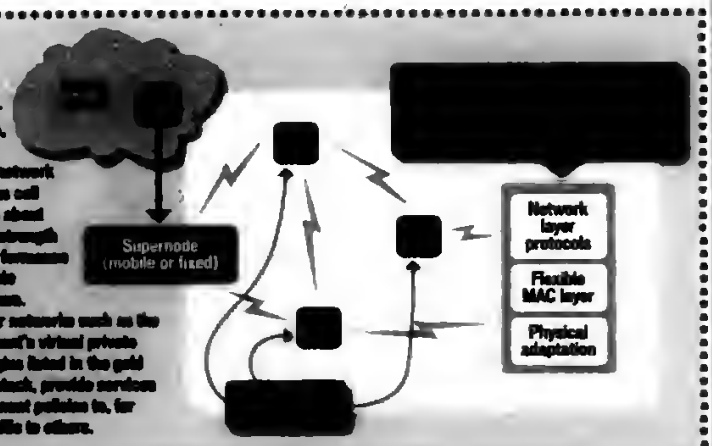
A target application of cognitive radio is to let unlicensed users legally use portions of the radio spectrum that are officially reserved for licensed users — as long as they can do so without interfering. A way to implement that is to have radios share information about which spectrum bands are in use and which are idle. Park says the danger comes from a phenomenon called spectrum hogging, in which an adversary radio sends false data in order to commandeer slices of spectrum for its own use.

Another danger: Since software-defined radios can be modified from afar, hackers could download malicious software to them. Park says he's looking for algorithms that might detect such attempts. "These are security issues that can't be solved by traditional countermeasures such as cryptography," he says.

GARY ANTHES

CogNet Vision

CogNet, funded by the National Science Foundation as part of its "future Internet" program, is a project to develop wireless communications protocols for cognitive networks. In the network pictured here, radio frequency devices, such as cell phones or wireless laptops, share information about their capabilities, positions, errors and signal strength in order to reconfigure and optimize the performance of the network as a whole. They also coordinate channel-hopping to idle portions of the spectrum. The "supernode" serves as a gateway to other networks such as the Internet. Or it might connect a police department's virtual private network with a Red Cross VPN. The technologies listed in the gold box coordinate activities across the protocol stack, provide services such as name and address lookup, and implement policies to, for example, give nodes incentives to forward traffic to others.



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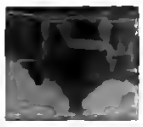
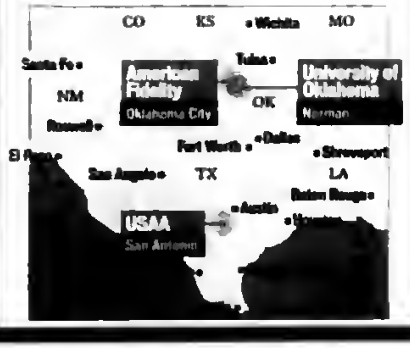
Southern Exposure

BY JENNIFER McADAMS

Affordable housing and warm weather help these Best Places to Work lure IT talent.

WHERE ARE THEY?





THE FIRST IN A SERIES on hiring trends and work environments at companies on Computerworld's annual Best Places to Work in IT list.

SOUTH CENTRAL

THOUGH MEMORIES of Hurricane Katrina reverberate through portions of the South Central region, most of these states are sheltered from killer storms. Overall, this area is marked by balmy temperatures, and it offers some of the nation's most affordable housing — factors that come into play for employers looking to lure IT talent from glitzy Pacific and mid-Atlantic cities.

Here's an enticing statistic for IT job hunters, especially those relatively new to the workforce: Median monthly housing costs in the nation's South Central region hover at $657, according to 2006 statistics compiled by the U.S. Department of Housing and Urban Development and the U.S. Census Bureau. Take a job in the Northeast or the Pacific region, and your monthly housing costs could be double that amount.

Other big draws include mild winters and the hospitality associated with Southern states. When it comes to recruiting, corporate IT powerhouses such as American Fidelity Assurance Co., USAA and the University of Oklahoma lean heavily on all of their region's strengths.

American Fidelity Assurance

- **IT HEAD COUNT: 136**
- **CIO: John Schille**
- **CURRENT IT PROJECTS: Integrated billing project to consolidate customer obligations from different business units for Web site display and payment via electronic funds transfer; changes to interface with back-end systems; and methods to verify without manual review that any changes adhere to company rules.**
- **CURRENT IT OPENINGS: The company is seeking a data warehouse analyst. See its careers Web site at *www.afadvantage.com/employment.asp*.**

BONUSES AND BUY INS Oklahoma City is downright affordable, with a cost of living index almost 8% below the national average. American Fidelity sweetens the pot with handsome compensation packages and other benefits designed to attract and retain top IT talent.

"The IT staff is well compensated in comparison to industry trends and local markets," says Carol Whitaker, a systems analyst. "There is opportunity for employees to receive three bonuses: a holiday bonus, a variable bonus based on company performance and a recognition bonus. We also have a defined pension plan — which is becoming a rarity among corporations — and a voluntary 401(k) savings plan that is matched by the company."

American Fidelity officials stress that the company seeks to empower employees and include workers in all decisions. "We like to give an IT employee an assignment instead of telling them how to do it," says Phil Larson, director of ISD enterprise operations.

USAA

- **IT HEAD COUNT: 2,360**
- **CIO: Greg Schwartz**
- **CURRENT IT PROJECTS: Isolation of development environments, streaming video initiatives, IT service management implementation, high-availability data center implementation, streaming software development processes, and business and technical research initiatives.**
- **CURRENT IT OPENINGS: Many IT positions are open now. Check the Web site at *www.usaa.com*. USAA has installed a new applicant-tracking system that allows candidates to create a "job search agent" that generates a confidential profile and allows for notification when a position opens up.**

SIZE MATTERS USAA calls San Antonio home, and all of its 15,000 employees work there — on a 250-acre campus complete with three Starbucks, a baseball field and an office building bigger than the Pentagon.

When it comes to attracting employees with strong IT skills, USAA executives realize how enticing the prospects of home ownership and disposable income can be. "Because of the abundance of affordable housing in our area, even our employees who are recent college graduates are able to buy a home," says CIO Greg Schwartz.

Initially drawn by the region's affordability, programmer Jill Dunn was also attracted to the experience USAA promised. "I now have exposure to important technologies, such as Java and J2EE," she says.

Many Texans cling to their roots and have little desire to stray far from home, so USAA attracts IT workers from other major corporations throughout the Lone Star State. Senior database administrator Robert Lagoudis held positions at Texaco Inc. and Reliant Energy Inc. before taking a job at USAA. His family helped drive the decision. "We wanted to stay in Texas. We wanted to live in the South," he says.

Like Dunn, Lagoudis also wanted the exposure to advanced technologies that USAA can provide. "Here you get a chance to work with new technology long before you'd get a chance somewhere else," he says. Lagoudis cites as an example his almost instantaneous access to IBM's DB2 Version 8.

"The projects we have really run the gamut and appeal to people on a lot of different career paths," says Schwartz.

University of Oklahoma

- **IT HEAD COUNT: 175**
- **CIO: Dennis Aebersold**
- **CURRENT IT PROJECTS: Computer lab upgrades, universitywide adoption of a content management system, and student mail migration from POP to Exchange 2007.**
- **CURRENT IT OPENINGS: The university is hiring Web developers, field technicians/consultants, service desk technicians, security analysts, and Windows and Linux server engineers and administrators. See its careers Web site at *http://jobs.ou.edu*.**

COLLEGIAL AUTONOMY IT job hunters looking for an enthusiastic work environment might want to consider an academic setting, since technology departments in colleges and universities often reflect the democratic atmosphere of such institutions. "When I recruit, I always explain that if a potential employee has an interest in a particular technology, we are either doing it, looking into it or need someone to research it," says Anna Biggers, IT director of business strategy at OU, located about 20 minutes outside of Oklahoma City in Norman.

IT specialist Ashish Pai has developed a wealth of experience in just three years. "I've had the opportunity to actively test cutting-edge technology, develop commercial-grade, Web-based applications and assist in planning and implementing various IT-related projects," Pai says. "Accumulation of such a diverse set of skills in such a short amount of time is virtually unheard of."

Although OU's IT shop is the largest employer of students on campus, the university is constantly looking for all types of IT talent. "We work on a variety of projects and technologies," says Biggers. "We look for curious, creative, self-directed technology specialists with a strong work ethic."

McAdams is a freelance writer in Vienna, Va. Contact her at JMTechWriter@aol.com.

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Buried Alive by Work, Getting Little Done

With personnel problems consuming all of our manager's time, real work goes by the wayside. By C.J. Kelly

I HAVE A long commute, and one of the things I look forward to during the drive is the local radio station's joke of the day. Hearing something funny is always a good way to prepare for the workday. On one recent morning, the DJ was giving alternative definitions for various words and phrases. One of them really made me howl.

Depression: *anger without enthusiasm.*

That's exactly how I was feeling about my job. I tackle everything in life enthusiastically, but lately, the frustrations of my job have been mounting. I've had more than enough to make me angry, but instead, I'm a bit listless. Depressed? Maybe so. Here's hoping that writing about it will shake me out of the doldrums.

I have been spending inordinate amounts of time managing personnel problems rather than working on my long list of security projects. Admittedly, it's my own fault that I have such a long list. My modus operandi is to envision a perfectly secure environment, make a long to-do list, and prepare justifications and costs to run by management — and then I end up with approvals for more than anyone could accomplish.

I guess the people in management are swept away by the confidence I exhibit when I tell them what needs to be done. They assume I have the ability to accomplish it all, even though our state agency's IT department is sadly understaffed. As a result, I'm buried and having a difficult time managing the mess. I have said before that I believe good managers need to be technical, and I still believe that to be true. But when you don't have the staff that allows you to both manage and do the technical work, that theory hits some rough road.

SECURITY MANAGER'S JOURNAL

The personnel problems I've been dealing with for the past six months have been pulling me away from doing the technical stuff I have on my plate, and it isn't really managing, either. It's not a matter of nurturing the staff and resolving conflicts. It's playing the endgame as the problems with personnel cause the IT team to implode. It's not fun, and it's not productive.

I explained to my boss that as long as the agency requires me to manage this sort of thing, security projects will have to remain on hold. He's a supportive guy, and he asked me to list the projects that were on hold.

Unfortunately, after looking over the list, all my boss could do was give me approval to work lots of overtime. That's not exactly what I need. Working long hours has brought on exhaustion, and my body has been screaming "Uncle!" In this condition, I am not effective as either a manager or a security engineer.

Mandatory Breaks

The subject of overtime brings up something else that makes me angry without enthusiasm. Besides the difficulties of disciplining employees, one of the most frustrating things about working for the government is the attitude toward hours worked.

In my agency, the only salaried employee is the agency administrator. Everyone else is an hourly employee and has to fill out time cards.

Before I came here, I hadn't filled out a time card since I was 18 and working at Sears. Just seeing one of those things makes me feel as if I've regressed. I'm an adult. Can't I decide the best way to handle my workload and rest periods? Does it do anyone's productivity any good to enforce a system that results in my having to spend four hours every two weeks fixing up my own time card and those of my employees?

And "fixing up" doesn't mean falsifying. That's grounds for termination, and this agency is full of clock-watchers who would pounce on any discrepancies. Never mind that I would never have the need to pad my hours worked. It's the kind of situation that gives government bureaucracies a bad name. Who wants their tax dollars to pay for this sort of thing?

But, OK, I'm willing to play along. It's not as if I ever have a dearth of hours to report. Ah, but the system can still get you. The state's payroll department kicks my time card back nearly every time because I violated some rule.

For instance, there's a rule that state employees must take a half-hour break every four hours or so. That's a well-intentioned regulation that was meant to protect workers from overwork. I am overworked, but my anxiety level isn't going to decrease any if I'm sitting in the employee lounge reading a newspaper when there are things that need to get done. So, why does payroll throw a hissy fit if I don't take an hour in breaks every day?

But back to personnel and productivity problems. With no prospects for increasing my department's head count, I finally decided that my only hope for getting back into a productive mode that would enable me to start whittling away at my to-do lists is to close my door and ignore my staff.

As I enter my second week of this closed-door policy, I'm actually making headway with my work. And something very surprising is happening as well. My staff is taking on more responsibility.

I've always been one to advocate an open-door policy and hated the idea of being closed off from my staff. But this sudden turn of events has led my staffers to try to figure things out on their own and not ask me questions about every little thing. Even my boss is leaving me alone for the most part.

So, that's been an interesting lesson for me: Fostering communication must be balanced with setting limits. I don't know, but I suspect that the ability to learn is an indication that this depression isn't here for a long stay. ▸

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com, or join the discussions in our security blogs. **computerworld.com/blogs/security**

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SECURITY LOG

Security Bookshelf

Deploying Voice over Wireless LANs, by Jim Geier (Cisco Press, 2007). VoWLAN — I only recently heard this acronym. I'm not convinced that the quality-of-service issues of carrying voice over wireless LANs can be overcome. Imagine a group of people in a conference room with wireless laptops and VoWLAN phones all accessing the same access point. Can you say "white noise"? Still, if you are considering about VoWLAN, this book is for you. While I may not consider deploying the technology, I now understand it and know how to deploy it.

— C.J. Kelly

On Lenovo Stole of 2,500 ThinkPads

The Bangor headquarters of Community Health sold a CD containing the names, birth dates and Social Security numbers of 2.5 million ThinkPad notebooks used internally while being transported by a private carrier. A department spokesperson said she didn't know whether the information on the disk [illegible]

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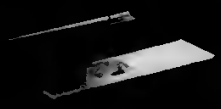

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A roundup of IT executives who have moved into new positions:

George C. Lin, CIO, Dolby Laboratories Inc., San Francisco. Formerly CIO and vice president, Advent Software Inc.

Mark A. Connelly, chief information security officer and head of core risk services, Credit Suisse Group, Zurich. Formerly vice president and chief information security officer, Sun Microsystems Inc.

Darko Dejanovic, senior vice president and global CIO, Monster Worldwide Inc., Maynard, Mass. Formerly vice president and chief technology officer, Tribune Co.

Tyler A. Best, CIO, Vanguard Car Rental, Fort Lauderdale, Fla. Formerly chief technology officer, Budget Rent A Car System Inc.

Terry Morgan, CIO, Delhaize Group. Formerly CIO and senior vice president of IT, Food Lion Inc.

Robert M. Guilmette, head of Web services, ING North America Insurance Corporate, Hartford, Conn. Formerly vice president and chief technical officer, investment products division, The Hartford Financial Services Group Inc.

Mark S. Popolano, chief technology officer, Reed Elsevier Inc., New York. Formerly senior vice president and global CIO, American International Group Inc.

James F. Healey, CIO, VMware Inc., Palo Alto, Calif. Formerly corporate vice president and CIO, Affymetrix Inc.

Juan Conde, CIO, Cigna Healthcare Inc., Bloomfield, Conn. Formerly senior vice president and CIO for world markets technology, Canadian Imperial Bank of Commerce.

Matthew J. Dattilo, CIO, CMGI Inc., Waltham, Mass. Formerly CIO, PerkinElmer Inc.

David Schoenholz, head of infrastructure services, ING U.S. Retail Financial Services, Atlanta. Formerly global leader, infrastructure operations and global infrastructure services, General Electric Capital Corp.

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BART PERKINS

Records Retention: Who Cares?

FEW IT PROFESSIONALS want to worry about how long to keep (or how to properly destroy) company records. Many people consider records management even less interesting than watching paint dry. But interesting or not, it's becoming critical. Savvy IT leaders care about records retention. Here's why:

■ **Government regulations.** U.S. companies are subject to dozens of federal, state and local regulations requiring records to be retained for periods of one year to indefinitely. The USA Patriot Act gives the federal government broad authority to obtain many types of personal data and designates retention periods for each. HIPAA's privacy rules limit access to individuals' protected health information and describe how long medical records must be retained. The Sarbanes-Oxley Act demands that public accountants retain certain corporate audit records and work papers for five years after an audit is completed. It also calls for fines or imprisonment for individuals who knowingly change or destroy company records with intent to obstruct federal proceedings (either under way or *anticipated*). The North American Free Trade Agreement, the General Agreement on Tariffs and Trade and other pacts also require significant records management.

■ **International regulations.** More than 40 countries currently have regulations requiring varying degrees of records retention. This can create problems for global companies when national regulations conflict. For example, e-mail regulations in SEC Rule 17a-4 conflict with European privacy laws. The international banking standard Basel II has different requirements for banks' loan loss reserves than U.S. rules mandate. These differences in requirements add complexity to multinational record-keeping. Complying with all applicable regulations requires a lot of homework.

■ **Litigation.** Last year, the Federal Rules of Civil Procedure were broadened to cover electronic records. Under the amended rules, both parties' lawyers must meet early in the litigation process to determine what types of records will be required. Companies have only 120 days after this agreement to produce all required records in a form that is "reasonably usable." Companies may also be required to provide technical support to ensure that the data is "useful." In addition, the producing party must now identify any potentially relevant sources of information that will not be searched if "undue burden or costs" can be justified. This requirement to disclose what is *not* being searched is new, and it places a significant burden on companies to determine all potentially relevant sources of data.

■ **Legal awareness.** The number of requests for data will increase as lawyers better understand IT data management. In 1999, the University of California's Continuing Education of the Bar program began a statewide drive to educate lawyers on how to search, maintain and use electronic records. Many other states have similar programs. Web searches for the terms *e-discovery*, *records management* and *records retention* produce mounds of advice for lawyers. In addition, lawyers are being advised to hire computer forensics specialists to access deleted, encrypted or other difficult-to-retrieve data.

■ **Costly penalties.** Penalties for noncompliance can be enormous. In 2006, Morgan Stanley agreed to a $15 million fine to settle charges that it failed to provide tens of thousands of e-mails requested during SEC investigations. (Even scarier, Morgan Stanley client Ron Perelman had previously won a $1.45 billion judgment against the firm for its failure to turn over requested e-mails to the court.) Recently, in *Zubulake v. UBS Warburg*, the judge concluded that UBS had willfully deleted relevant e-mails despite court orders. When a defendant has destroyed potentially relevant data, judges can (and this one did) direct the jury to presume that the deleted data would have supported the opposition. Zubulake was awarded $29 million. If you want to see more rulings regarding deleted e-mails, read up on the explosion at BP's Texas City refinery.

Keep abreast of changes in these areas. Regulations, requirements and penalties are evolving rapidly — but not always for the worse. In her opening speech at the CeBIT trade show, German Chancellor Angela Merkel observed that Germany has a large number of reporting requirements and said that the country's government "has committed to reduce bureaucracy costs by up to 25% by 2011." Stay tuned, and hope other countries follow suit.

Good records management is critical. Your organization could become involved in litigation or be hit with a government agency's request for information at any time. It will be impossible to produce data you have not retained, and failures may be costly. Prepare now. ▸

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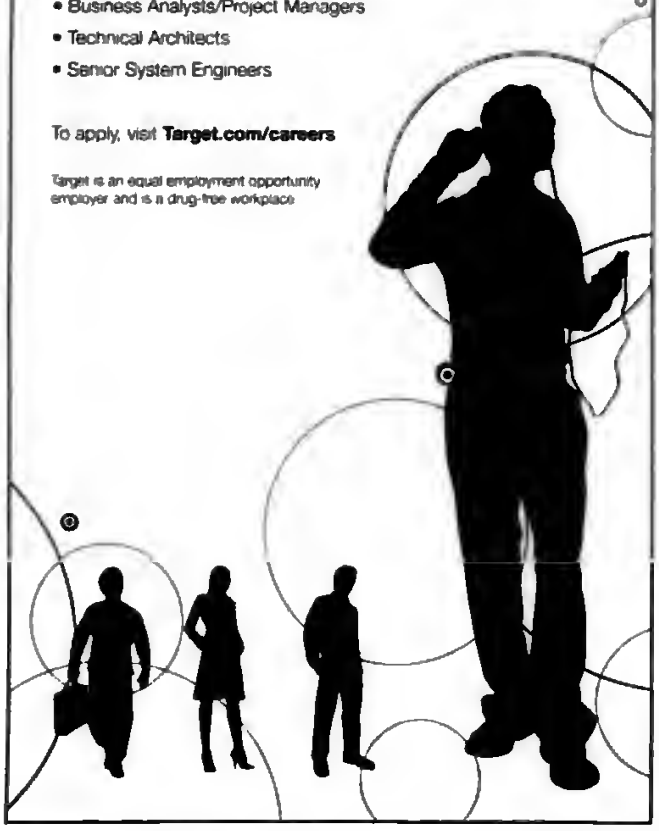

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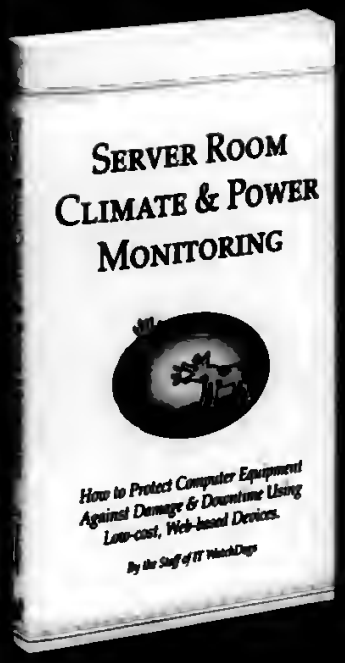

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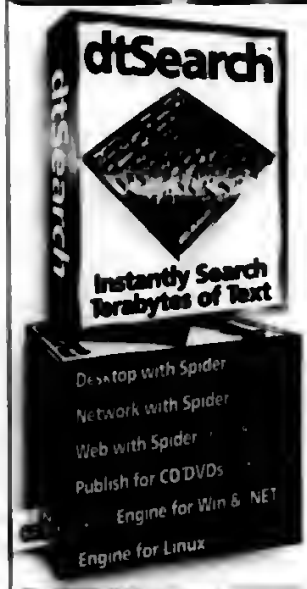

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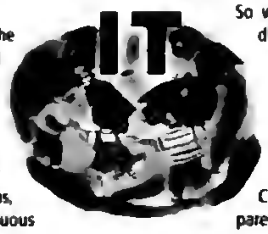
Advertising Supplement

IT Careers: Action Plan Creates Path to Diverse IT Workforce

Discussion among the nation's top government and industry leaders usually leads to one consistent theme – the absolute need for a workforce competent in technology, science, math and engineering. At the same time, some of the nation's leading professional organizations have dropped workforce as a top 10 policy issue. The Information Technology Association of America now includes workforce as a subset of its policy issue surrounding creation of a competitive U.S. IT industry.

There's no question the U.S. will never beat countries such as India and China on a pure numerical basis; the population is much smaller overall. However, the reality is that 60% of all American workers will use technology on the job every day – in offices, on the shop floor, in their trucks. While technology drives these jobs, the number of minority people filling IT and technology positions has dropped in the past six years, according to Tyrone Taborn, CEO and founder of Career Communications Group (publisher of Black Engineer, Hispanic Engineer and Women in Engineering).

Taborn gets absolutely animated when he points to these facts, demanding that minority employees need to be part of *creating* business and opportunity – not just *using* technology. "We're still in the entrepreneur stage in many technology businesses," he says. To date minorities and women have not been "part of the wealth creation emanating from this new digital era."



As with any fast-paced dynamic business, the IT and technology industries have both grand accomplishment and explosive failure – and that sometimes scares students away from the rigors of science, technology, engineering and math studies. The fear is misguided, Taborn says, pointing to higher wages, a greater degree of career options, investment by IT businesses in continuous learning, and – again – sheer numbers. The U.S. Department of Labor reports that better than 40% of America's jobs are in advanced technology. Yet less than half the black high school graduates who go on to college will enroll in the programs that prepare them for these jobs.

Taborn, one of 10 contributing authors to the New York Times #1 nonfiction book, The Covenant with Black America, says company leaders know diverse technology talent is crucial to business success. February's Black Engineer of the Year Awards event attracted more than 8,000 people, including senior leaders from most every high tech firm in the nation.

So what's the action plan to creating a diverse workforce? Number one on Taborn's list, as well as most leaders' lists, is creating a network of technology professionals that reaches out to the K-12 community and then remains in touch as students advance to college. Community is defined as teachers, parents, and students. "This has to be relevant role modeling," Taborn stresses, noting the importance of personal connection.

Second, increase the number of minority students enrolled in science, technology, engineering and math (see chart).

Third, increase engineering and science research funding at Historically Black Colleges and Universities to $1 billion.

Increase the number of minority and female-owned technology businesses, with paid employees.

Assure that the technology learning among the nation's military service members translates into technology career opportunity for them in the civilian world.

Diversity: College Population vs. Engineering Degrees Awarded

Year	Blacks		Latinos		Native Americans		Total Minority	
2000	14.50%	5.00%	17.50%	5.10%	1.20%	0.60%	33.20%	10.70%
2005	14.80%	5.00%	17.30%	5.20%	1.20%	0.50%	33.30%	10.70%

Source: Data derived from Engineering Workforce Commission and NACME

For more information about IT Careers advertising, please call: 800.762.2977

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No Fear

LAST WEEK, at a conference at IBM's Almaden Research Center in Silicon Valley, the topic was complexity. The outlook for software development: grim. The message: Even as IT environments keep getting more complex, we keep repeating the same old mistakes, such as buffer overflows, and we're loath to use modern development tools that would automate those errors out of existence. "The problem," said software risk guru Peter Neumann, "is that we keep going through the same problems over and over and over again."

He's right, of course. What's worse, we all know he's right — and we know we're not inclined to do much about it.

And we all know why, don't we? We're afraid.

We don't use advanced technology to improve software development because we're afraid nf programmers. Mainly, we're afraid that programmers simply won't use the bot new technology and that the money we spend on it will be wasted.

That's a perfectly logical fear. It's based nn experience. We've seen the same story played out for decades — with CASE, witb methodologies, witb code generators, witb reuse repositories. Either programmers don't use the tools at all, or they use them half-heartedly, or they find reasons to subvert them, or programmer productivity drops through the floor. Programmers just won't accept the new tools.

That's logical, too. Programmers know from experience that new development fads come along about as often as streetcars, and they're all based on somebody's theory nf how best to build software. But programmers won't waste their time trying a new approach unless they really believe it's better than what they're already using. And they won't believe it's better until they've given it an honest, committed try. But they're not going to waste their time doing that unless they already believe. . . .

That's why fancy new development tools tend to become shelfware and software develnpment quickly returns to the tried and true: pushing nne line nf code next tn another.

So, what tn do? Are we fnrever donmed to watch helpless as greater business demands and ever-changing software requirements suck us down into a swamp nf complexity?

Nope. We can stop trying to shove new development tecbnology down the throats of programmers and start using it ourselves.

Look, there are some great tools out there calling themselves "application portfolio management." That sounds like something you'd use a spreadsheet for, but what these tools really do is automatically comb througb code, generating metrics, spotting inconsistencies, hunting down problems and generally analyzing everything in your collection of software.

Automated code inspection isn't new. But these tools are designed to let managers roll up the metrics into a big picture nr drill down tn see which projects are working and which have trouble brewing — and how they'll interact witb other parts of the software portfolio.

And that's what we need, isn't it? We want technnlogy tbat gives us better visibility intn our software, that lets us whittle away at cnmplexity and root out problems.

Most of all, we want tools that will help us manage software development — and developers — without having tn persuade those developers to change their ways first.

We don't have to wait for them. And we don't have to sit idly by while they bang away at the same old problems in the same old way. We can set standards and enforce them automatically. We can head off future maintenance problems and identify trouble early. We can write death warrants for projects that just aren't wnrth saving.

FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

And we can lead by example. When application portfolio management technnlogy lets managers understand code problems better than developers do, it may just make believers of those develnpers.

For once, we can use technology to cut complexity instead of increase it. Which leaves one big question.

What are we afraid of now? ▸

Let's Try That One Again

Manufacturer is in the first week of a big ERP rollout, and several analysts and consultants are manning a "war room" to field users' questions. "One morning, the phones were ringing off the hook and several of us had phones in both ears," says a pilot fish there. "One user with a printer problem said, 'I submitted my print request three times and nothing came out!' With another phone on my other ear, I told him, 'OK, call us back when it starts working.' His response: 'OK, will do. Thanks!' Once everyone realized what I'd just said, we weren't able to take calls for 10 minutes, since we were laughing so hard."

SHARK TANK

No Rush

Help desk pilot fish receives an e-mail from a school the supports: "Teacher had a mouse in her printer. When she hit the print button, the paper came out wet and yellow. The mouse followed shortly thereafter. Does someone need to look at her printer? She's leaving today at noon so don't worry about it until Monday."

Self-help

This pilot fish has spent the past few years building an extensive wiki knowledge base of IT standards and the company's standards-related activities and policies, with contributions and expertise from many people within the company. So it's a little disconcerting when he gets a note from his manager: "What are W3C standards, and why are they important?" Fish sends a note back, reminding her about the knowledge base. Manager: "It's easier to just ask you." Fish: "OK, I'll make it harder."

Loss Leader

This department has a problem with the expensive new tablet PCs that have been issued to employees to use in the field. "In the first year, half the tablets have been returned for repair or replacement because the employees dropped and broke them," grumbles a pilot fish on the scene. "The department with the clumsy employees? Loss prevention and control."

Hard Driving

Support call comes in from a user on the road – literally. "She was driving down the highway talking on her cell phone and with her laptop on," says the pilot fish who takes the call. "Her problem was that her wireless wasn't working as she drove down the road. She just couldn't understand – it worked earlier that morning at the hotel."

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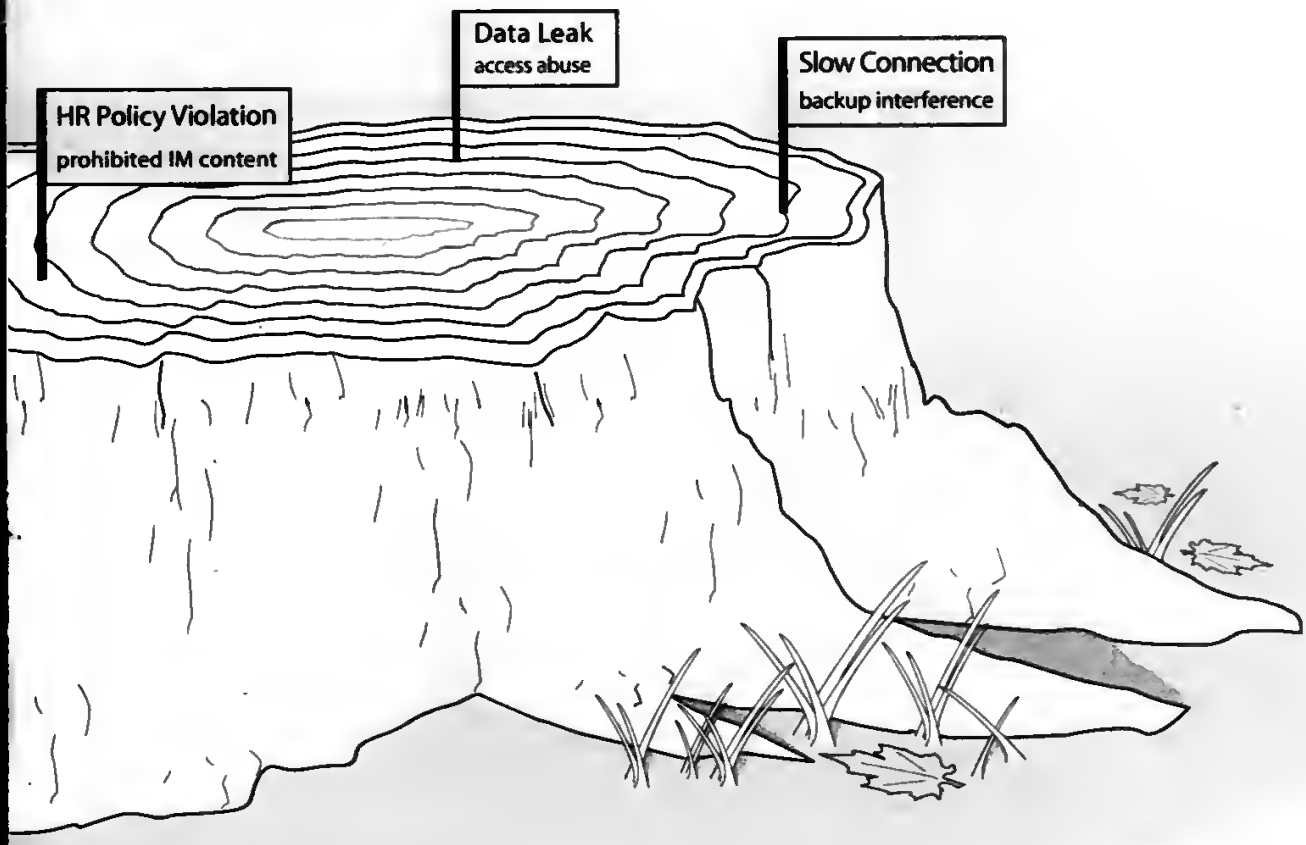

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